

GEOTECHNICAL

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CONSTRUCTION
MANAGEMENT

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# NEW ENGLAND BIOASSAY A DIVISION OF GZA CHRONIC AQUATIC TOXICITY TEST REPORT

Permitee:	Patr	riot Beverages	i		NPDES #	MAC	0004936
Report submitted to:	20 Harvard Road		•				
	Littleton, MA 01460			•			
Sample ID:		Outfall 001			•		
Test Month/Year:	00	ctober 2018			•		
NEB Proj #	05	.0044697.00			•		
Test Type / Method:	Pimephales proi Test Method 10				Static-Re	enewa	al Freshwater
Effluent Sample Dates:	#19/30-10/2	1/18#2	10/	2-3/18	8#3	:	10/4-5/18
Test Start	Date:	10/	1/18			8	
	F	Results Summ	ary				
Your results were as foll Passed all permit limits	ows:						
	A	cute Test Res	ults				
Species	LC50	A-NOE	c	Pern	nit Limit		Pass / Fail
Pimephales promelas	>100%	100%		≥	100%		Pass
		11					
		ronic Test Re	sults				
Species	C-NOEC	C-LOEC	IC:		Permit l		Pass/Fail
Pimephales promelas	100%	>100%	>10	0%	≥ 919	%	Pass
Data Qualifiers affecting	this test:						

Certifications & Approvals: NH ELAP (2071), NJ DEP (CT405)

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### **Test Report Certification**

Permittee name:	Patriot Beverages	Permit number:	MA0004936			
Client sample ID:	Outfall 001	Test Start Date:	10/1/18			
Whole Effluent Toxicity Test Report Certification (Permittee)						
supervision in accord evaluate the informatio those persons directly knowledge and beli	dance with a system designed to on submitted. Based on my inqu responsible for gathering infor ief, true, accurate, and complet	I all attachments were prepared un o assure that qualified personnel pr iry of the person or persons who m mation, the information submitted ee. I am aware that there are significated ity of fine and imprisonment for kn	roperly gather and nanage the system, or is, to the best of my cant penalties for			
Executed on:	(Date)	Authorized Signature				
	( ) ,					
		Print or Type Name and Title				
		Print or Type the Permittee's Na	me			
		MA0004936	5			
		Print or Type the NPDES Permit I	Number			
Whole Efflu	uent Toxicity Test Repor	t Certification (Bioassay La	boratory)			
The	e results reported relate only to	the samples submitted as received	t			
supervision in accord evaluate the informatio those persons directly knowledge and beli	dance with a system designed to in submitted. Based on my inqu responsible for gathering inform ief, true, accurate, and complet	I all attachments were prepared un o assure that qualified personnel pr iry of the person or persons who m mation, the information submitted e. I am aware that there are signification of the	roperly gather and nanage the system, or is, to the best of my cant penalties for			

2 of 65

Kimberly Wills

Laboratory Manager

New England Bioassay a division of GZA

### **General Test Conditions**

Permittee name	Patriot Beverage	sPei	rmit number:_	MA0004936		
Client sample ID	Outfall 001	Te	st Start Date:	10/1/18		
	Sample Colle	ction Information				
Effluent #1 Dates/Times: 9/30-10/1/18 @ 0800-0700 Receiving Water #1 Date/Time: 10/1/18 @ 0645  Effluent #2 Dates/Times: 10/2-3/18 @ 0700-0700 Receiving Water #2 Date/Time: 10/3/18 @ 0730  Effluent #3 Dates/Times: 10/4-5/18 @ 0700-0600 Receiving Water #3 Date/Time: 10/5/18 @ 0630  Were a minimum of three samples collected? Yes  No  ** (see note below)  Were samples used within the first 36 hours of collection? Yes  No  ** (see note below)  * sample collection note:						
	Test C	Conditions		1		
<u>.</u>						
Permittee's Receiving Water: R	eedy Meadow Brook					
Dilution water: <u>Laboratory sy</u>	nthetic soft water (ha	rdness 45 - 55 mg/L	CaCO3)			
• Control water: Receiving water	collected at a point i	mmediately upstrear	n of or away froi	m the discharge		
Effluent concentrations tested:	0%, 6.25%, 12.5%, 25	%, 50%, 91%, 100%				
Was effluent salinity adjusted?	No 🗸 Yes 🗆	with Instant Ocean s	ea salts to	ppt		
Dechlorination procedures: Chlorine is measured using 4500 CL-G DPD Colorimetric Method  Dechlorination was not required						
Aeration: Did Dissolved Oxygen I	evels fall below 40% s	aturation? Yes	□ No ☑			
Test Aerated at <100	bubbles/minute as of	f:				
TRC results and further information about aeration of samples can be found attached in "sample receipt chemistry"						
	Reference	Toxicant Data				
Fathead minnows						
	Date:	10/1/18	2			
	Toxicant:	Sodium chloride				
	Dilution Water:	NEB Soft Water				
	Organism Source:	NEB	·			
	Growth IC25:	1.45 g/L				
	Results within range	e Yes 🗹 No 🗌				

## **Pimephales promelas** Test Results

Permittee name:	Patriot	Beverages		Permit nur	mber	MA0004936
Client sample ID:	Outfall 00	01	_Гest Dates:	10/1/18	3 -	10/8/18
	Task	A				
	Test	Acceptability Cr	iteria			
Lab Diluent Survival: Brook Control Survival: Thiosulfate Control Survival: Presence of an asterisk (*) insection at the bottom of the	77.5 % Me N/A % Me dicates EPA criteri	ean Lab Diluent Gr ean Brook Control ean Thiosulfate Co ia was not met, see	Growth: ntrol Growth:	0.49 0.48 N/A in the "Resul	_mg _mg _mg  ts Disc	cussion"
		Test Results				

		Permit Limit	Test Result	Pass/Fail Status
Acute	48 hr LC50	≥ 100%	>100%	Pass
Data	48 hr NOEC		100%	
	TUa			
	Chronic LC50		>100%	
	Survival C-NOEC		100%	
	Survival C-LOEC		>100%	
	Growth C-NOEC	E ENE	100%	
Chronic	Growth C-LOEC		>100%	
Data	Growth IC25		>100%	
	Growth IC50		>100%	
	Reportable C-NOEC	≥ 91%	100%	Pass
	Reportable C-LOEC		>100%	
	MATC		>100%	10 10 N C
	TUc	No. STATE		THE STATE

Presence of an asterisk (\*) indicates qualified data, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Variability
Growth PMSD: 9.2% Upper & Lower EPA bounds: 12 - 30%  Low  Within bounds  High  PMSD exceeds upper bounds. Test results are highly variable and may not be sensitive enough to determine the presence of toxicity at the permit limit concentration (PLC)
The PMSD falls within the upper (30%) and lower (12%) bounds. Results are reportable.
PMSD falls below the lower bound test variability criterion. The test is very sensitive. The relative percent
difference (RPD) between the control and each treatment was calculated and compared to the lower bound
The RPD values for all concentrations fall below the lower bound. Any differences observed in this test are considered statistically insignificant.
Some of the concentrations that were flagged as statistically significant have RPD values that fall below the lower bound. Any differences observed in these concentrations will not be considered statistically significantly decreased from the control.
No statistically significant reductions were observed in this test.

# **Pimephales promelas Test Results**

Permittee name:	Patriot Beverages		Permit number	MA0004936
Client sample ID:	Outfall 001	Гest Dates:	10/1/18 -	10/8/18
	Concentration - Respon	se Evaluation		
	nificant effects at any test concentra ntrations performed very similarly to			onse curve.
Growth: #12 No significant effects at any test concentration with a relatively flat concentration-response curve. Test concentrations performed both above and below (but similarly to) the dilution control.				
The concentration - respo	nse relationship was reviewed and tl	ne following dete	rmination was ma	ade:
xx	Results are reliable and repor	table		
	Results are anomalous (see	explanation belo	ow)	
	Results are inconclusive - rete	st (see explanation	on below)	
	Results Discussion (if	applicable):		

# **TEST METHODS**

### Pimephales promelas

Test type: Modified Chronic Static Renewal Freshwater Test

Test Reference Manual: EPA-821-R-02-013 "Short-Term Methods for Estimating the Chronic Toxicity of

Effluents and Receiving Water to Freshwater Organisms"

**Test Method:** Pimephales promelas Survival and Growth Test - EPA 1000.0

**Temperature:**  $25 \text{ °C} \pm 1 \text{ °C}$  (Temperatures should not deviate by more than 3 °C during the test)

(required)

Light Quality: Ambient Laboratory Illumination (recommended)

**Light Intensity:** 10-20 μE/m2/s, or 50-100 ft-c (recommended)

**Photoperiod:** 16 hours light, 8 hours dark (recommended)

Test chamber size: 600 mL (500 mL is recommended minimum)

**Test solution volume:** 250 mL (recommended minimum)

Renewal of Test Solutions: Daily (required)

Age of Test Organisms: Newly hatched larvae less than 24 hours old (required)

**Number of Neonates** 

Per Test Chamber: 10 (recommended)

**Number of Replicate Test** 

Chambers Per Treatment: 4 (required minimum)

**Number of Neonates Per** 

Test Concentration: 40 (required minimum)

Feeding Regime: 0.15 g twice daily (in the morning prior to renewal and at the end of the work day

following renewal) Sufficient nauplii are added to provide an excess.

(recommended)

Cleaning: Siphoned daily, immediately before test solution renewal (required)

Aeration: None, unless DO concentration falls below 4.0 mg/L, at which point the rate

should not exceed 100 bubbles/minute. (recommended)

**Test Duration:** 7 days (required)

**Endpoints:** Survival and growth (weight) (required)

**Test Acceptability:** 80% or greater survival in controls; average dry weight per surviving organism in

control chambers equals or exceeds 0.25 mg (required)

**Sampling Requirements:** Minimum of three samples with a maximum holding time of 36 hours before

### Pimephales promelas

first use. (required)

Sample volume required: 2.5 L/Day (recommended)

# PIMEPHALES PROMELAS DATASHEETS & STATISTICAL ANALYSIS

# NEW ENGLAND BIOASSAY TOXICITY DATA FORM CHRONIC COVER SHEET

CLIENT:	NT: Patriot Beverages	
ADDRESS:	20 Harvard Road	
	Littleton, MA 01460	
PERMITTEE:	Patriot Beverages	
PERMIT NUMBER:	MA0004936	
DILUTION WATER: Soft Synthetic Lab Water		

P.promelas TEST ID # 18-1475

CHAIN OF CUSTODY # C38-3718/19

NEB PROJECT # 05.0044697.00

SAMPLE ID: Outfall 001

### **VERTEBRATES**

TEST SET-UP TECHNICIAN:	MM
TEST SPECIES:	Pimephales promelas
NEB LOT #	Pp18(10-1)
AGE:	< 24 hours
TEST SOLUTION VOLUME (mls):	400
ORGANISMS PER TEST CHAMBER:	10
ORGANISMS PER CONCENTRATION:	40

### LABORATORY CONTROL WATER (SRCF)

Lot Number	Hardness mg/L	Alkalinity mg/L
C38-S022	48	35

	DATE	TIME
TEST START:	10/1/18	1300
TEST END:	10/8/18	1229

COMMENTS:	
REVIEWED BY:	DATE:

# NEB'S SURVIVAL DATA SHEET FOR FATHEAD MINNOW LARVAL SURVIVAL AND GROWTH TEST

FACILITY NAME & AD	DRESS:	Pa	triot Bevera	ges, 20 Har	vard Road	, Littletor	MA 014	160
NEB PROJECT NUMB	ER:	05.0044697	.00 TEST N	NUMBER:	18-1	L475	COC#	C38-3718/19
TEST ORGANISM:	Pimephale	es promelas	AGE:	<24	hours	Lot#	Pp	18(10-1)
START DATE:	10/1,	/18 TIM	E: 1300	D END	DATE:	10/8/18	TIME:	1229

Effluent	Poplicato				Nur	mber of S	urvivors			
Concentration	Replicate Number				r-	Day	•	,		
		0	1	2	3	4	5	6	7	Remarks
	ANALYST	MM	CD	CD	CD	CD	cw	cw	ММ	
MEDiah	Α	10	10	10	10	10	10	10	10	
NEB Lab Synthetic	В	10	10	10	10	10	10	10	10	
Diluent	С	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
Reedy	Α	10	10	10	9	8	7	7	7	
Meadow	В	10	10	10	9	9	9	9	9	
Brook	С	10	10	10	10	10	10	10	10	
Control	D	10	10	10	7	5	5	5	5	
	А	10	10	10	10	10	10	10	10	
6.25%	В	10	10	10	10	10	10	10	10	
0.23/0	С	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
	А	10	10	10	10	10	10	10	10	
12.5%	В	10	10	10	10	10	10	10	10	
12.570	С	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
	А	10	10	10	10	9	9	9	9	
25%	В	10	10	10	10	10	10	10	10	
2370	С	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
	Α	10	10	10	10	10	10	10	10	
F/00/	В	10	10	10	10	10	10	10	10	
50%	С	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
	A	10	10	10	10	10	10	10	10	
010/	В	10	10	10	10	10	10	10	10	
91%	С	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	

D.O. concentration fell below 4.0 mg/L	
All test solutions were aerated at <100 bubbles/minute as of	

# NEB'S SURVIVAL DATA SHEET FOR FATHEAD MINNOW LARVAL SURVIVAL AND GROWTH TEST

FACILITY NAME & ADI	DRESS:	Р	atriot Bev	erages, 20 H	larvard Ro	oad, Littleton	MA 01	460
NEB PROJECT NUMBE	R:	05.004469	7.00 TES	T NUMBER:	1	.8-1475	COC#	C38-3718/19
TEST ORGANISM:	Pimephale	s promelas	AGI	: <2	24 hours	Lot #	Рŗ	018(10-1)
START DATE:	10/1/	/18 TIN	ΛΕ: 1	300 EN	ID DATE:	10/8/18	TIME:	1229

Effluent	Replicate				Nur	mber of Si	urvivors			
Concentration	Number				-	Day	(i)	r======		
		0	1	2	3	4	5	6	7	Remarks
	ANALYST	MM	CD	CD	CD	CD	CW	CW	MM	
	Α	10	10	10	10	10	10	10	10	
100%	В	10	10	10	10	10	10	10	10	
10070	С	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
				-						
	-									
						<u> </u>				

# **NEW ENGLAND BIOASSAY OBSERVATION DATA FORM**

05.0044697.00 18-1475 щ Test ID: Project # Rep D: All organisms appear healthy and normal unless noted Pimephales promelas 0 9 10/1/18 Technician: Technician: Rep C: 10/4/18 10/5/18 Test Species: Test Date: ш Date: Date: Rep B: Observations Observations Patriot Beverages 불 щ ш 4 ന Day Day Rep A: Concentration **Brook Control Brook Control** Lab Diluent Lab Diluent or Dilution Permittee: 6.25% 6.25% 12.5% 12.5% 100% 100% 25% 20% 91% 25% 20% 91%

F= fungus NF = no fungus SL = slightly lethargic L = lethargic VL = very lethargic TD = tangled in debris MT = missing test organism TE = technician error (organism accidentally killed by technician) SS = stuck in surface tension DW = dead above water line

# **NEW ENGLAND BIOASSAY OBSERVATION DATA FORM**

Permittee:	Patriot Beverages	erages		Test Species: Test Date:	st Species: Test Date:	Pimephales promelas 10/1/18	promelas /18	Test ID: 18-1475 Project # 05.0044697.00
Concentration or Dilution			All orga	nisms appea	ar healthy	All organisms appear healthy and normal unless noted	unless noted	
	Day	5 Observations	suc	Date: 10	10/6/18	Technician:	CW	
Lab Diluent	Rep A:		Rep B:			Rep C:		Rep D:
Brook Control	Rep A:	ш	Rep B:			Rep C:		Rep D:
6.25%	Rep A:		Rep B:			Rep C:		Rep D:
12.5%	Rep A:		Rep B:			Rep C:		Rep D:
25%	Rep A:		Rep B:			Rep C:		Rep D:
20%	Rep A:		Rep B:			Rep C:		Rep D:
91%	Rep A:		Rep B:			Rep C:		Rep D:
100%	Rep A:		Rep B:			Rep C:		Rep D:
	Day	6 Observations	suc	Date: 1	10/7/18	Technician:	CW	
Lab Diluent	Rep A:		Rep B:			Rep C:		Rep D:
Brook Control	Rep A:		Rep B:			Rep C:		Rep D:
6.25%	Rep A:		Rep B:			Rep C:		Rep D:
12.5%	Rep A:		Rep B:			Rep C:		Rep D:
25%	Rep A:		Rep B:			Rep C:		Rep D:
20%	Rep A:		Rep B:			Rep C:		Rep D:
91%	Rep A:		Rep B:			Rep C:		Rep D:
100%	Rep A:		Rep B:			Rep C:		Rep D:

F= fungus NF = no fungus SL = slightly lethargic L = lethargic VL = very lethargic TD = tangled in debris MT = missing test organism TE = technician error (organism accidentally killed by technician) SS = stuck in surface tension DW = dead above water line

# **NEW ENGLAND BIOASSAY OBSERVATION DATA FORM**

Permittee:	Patriot Beverages	erages		Test Species: Test Date:	ccies:	Pimephales promelas 10/1/18	promelas 18	Test ID: 18-1475 Project # 05.0044697.00
			All orga	nisms appea	r healthy	All organisms appear healthy and normal unless noted	ınless noted	
	Day	7 Observations	suc	Date: 10	10/8/18	Technician:	MM	
	Rep A:		Rep B:			Rep C:		Rep D:
-	Rep A:		Rep B:			Rep C:		Rep D:
	Rep A:		Rep B:			Rep C:		Rep D:
	Rep A:		Rep B:			Rep C:		Rep D:
	Rep A:		Rep B:			Rep C:		Rep D:
	Rep A:		Rep B:			Rep C:		Rep D:
	Rep A:		Rep B:			Rep C:		Rep D:
	Rep A:		Rep B:			Rep C:		Rep D:
. 1111	Day	Observations	suc	Date:		Technician:		
	Rep A:		Rep B:			Rep C:		Rep D:
	Rep A:		Rep B:			Rep C:		Rep D:
1	Rep A:		Rep B:			Rep C:		Rep D:
- 1	Rep A:		Rep B:			Rep C:		Rep D:
	Rep A:		Rep B:			Rep C:		Rep D:
	Rep A:		Rep B:			Rep C:		Rep D:
	Rep A:		Rep B:			Rep C:		Rep D:
	Rep A:		Rep B:			Rep C:		Rep D:
, III								

F= fungus NF = no fungus SL = slightly lethargic L = lethargic VL = very lethargic TD = tangled in debris MT = missing test organism TE = technician error (organism accidentally killed by technician) SS = stuck in surface tension DW = dead above water line

### NEW ENGLAND BIOASSAY WEIGHT DATA FOR FATHEAD MINNOW LARVAL SURVIVAL AND GROWTH TEST

FACILITY NAME & ADDRESS:	Patriot	Beverages, 20 Harvard Road,	Littleton MA 01460
NEB PROJECT #	05.0044697.00	NEB TEST NUMBER:	18-1475
TEST START DATE	10/1/18	- WEIGHING DATE:	10/22/18
TEST END DATE	10/8/18		*
DRYING TEMPERATURE (°C)	100 ± 4	DRYING TIME:	minimum 6 hours
ANALYST-INITIAL WEIGHTS	ТВР	ANALYST-FINAL WEIGHTS	ТВР
Effluent Concentration	Replicate Number	A Weight of boat (mg)	B Dry Weight: Foil and Larvae (mg)
	Α	933.44	938.24
NED Lab Symthatia Dilyant	В	935.70	940.55
NEB Lab Synthetic Diluent	С	934.48	939.75
	D	939.06	943.85
	А	932.64	937.08
Doody Manday Due 1 Court	В	932.32	937.77
Reedy Meadow Brook Control	С	936.74	942.16
	D	935.51	939.35
	Α	932.96	937.48
6.050/	В	924.28	929.27
6.25%	С	931.59	935.95
	D	930.37	934.93
	Α	931.78	936.37
13.5%	В	927.54	932.16
12.5%	С	929.77	934.56
	D	929.25	934.25
	Α	932.04	936.86
250/	В	931.73	936.97
25%	С	933.03	937.58
	D	935.11	940.19
	Α	937.37	942.68
F00/	В	935.47	940.78
50%	С	926.43	931.22
	D	930.59	935.95
	Α	934.96	939.80
0404	В	928.55	933.59
91%	С	924.86	929.43
	D	932.73	937.95
	Α	935.80	940.82
4000/	В	932.00	936.62
100%	С	933.53	937.89
	D	934.91	939.61

		Final Weight	Initial Weight	Total Weight	Average per	Mean fish	Standard
Concentration	Rep	(mg)	(mg)	(mg)	fish (mg)	weight (mg)	Deviation
NEB Lab	1	938.24	933.44	4.80	0.480	0.4927	0.02298369
	2	940.55	935.70	4.85	0.485		
Synthetic	3	939.75	934.48	5.27	0.527		
Diluent	4	943.85	939.06	4.79	0.479		
	1	937.08	932.64	4.44	0.444	0.4787	0.078686615
Reedy Meadow	2	937.77	932.32	5.45	0.545		
Brook Control	3	942.16	936.74	5.42	0.542		
Ī	4	939.35	935.51	3.84	0.384		
	1	937.48	932.96	4.52	0.452	0.4607	0.026924277
6 25%	2	929.27	924.28	4.99	0.499		
6.25%	3	935.95	931.59	4.36	0.436		
1	4	934.93	930.37	4.56	0.456		
	1	936.37	931.78	4.59	0.459	0.4750	0.018850287
13.50/	2	932.16	927.54	4.62	0.462		
12.5%	3	934.56	929.77	4.79	0.479		
	4	934.25	929.25	5.00	0.500		
	1	936.86	932.04	4.82	0.482	0.4923	0.030269622
250/	2	936.97	931.73	5.24	0.524		
25%	3	937.58	933.03	4.55	0.455		
	4	940.19	935.11	5.08	0.508		
	1	942.68	937.37	5.31	0.531	0.5193	0.026936654
500/	2	940.78	935.47	5.31	0.531		
50%	3	931.22	926.43	4.79	0.479		
Ī	4	935.95	930.59	5.36	0.536		
	1	939.80	934.96	4.84	0.484	0.4917	0.027885181
010/	2	933.59	928.55	5.04	0.504		
91%	3	929.43	924.86	4.57	0.457		
	4	937.95	932.73	5.22	0.522		
	1	940.82	935.80	5.02	0.502	0.4675	0.027196814
1000/	2	936.62	932.00	4.62	0.462		
100%	3	937.89	933.53	4.36	0.436		
Ì	4	939.61	934.91	4.70	0.470		

Report Date:

22 Oct-18 14:09 (p 1 of 4)

Test Code/ID: 18-1475 / 17-9963-4566

								Te	st Code/ID	):		18-1475 / 1	17-9963-456
Fathead Mir	now 7-d Larval S	urvival and	Growt	th Test							ı	New Englan	nd Bioassay
Analysis ID:	08-8806-0576	End	point:	2d Survival Rat	te			CE	TIS Versi	on:	CETISV	1.9.4	
Analyzed:	22 Oct-18 14:08	Ana	lysis:	Linear Interpola	ation (ICPIN	)		Sta	atus Level	l:	1		
Batch ID:	05-4263-5806	Test	t Type:	Growth-Surviva	al (7d)			An	alyst:				
Start Date:	01 Oct-18 13:00	Prot	tocol:	EPA/821/R-02-	013 (2002)				-	Recei	iving Wat	ter	
Ending Date	: 08 Oct-18 12:29	Spe	cies:	Pimephales pro	omelas			Bri	ine: I	Not A	pplicable	)	
Test Length	: 6d 23h	Taxe	on:	Actinopterygii				So	urce: I	ln-Ho	use Culti	ıre	Age: <24
Sample ID:	01-4623-4759	Cod	e:	8B75D87				Pro	oject:				
Sample Date	e: 01 Oct-18 09:00	Mate	erial:	Industrial Efflue	ent			So	urce:	Patric	t Bevera	ges (MA000	14936)
Receipt Date	e: 01 Oct-18 09:55	CAS	(PC):					Sta	ation:				
Sample Age	: 4h	Clie	nt:	Patriot Beverag	jes								
Linear Interp	oolation Options												
X Transform	Y Transform	See	d	Resamples	Exp 95%	CL	Meth						
Log(X)	Linear	1932	2831	200	Yes		Two-l	Point Inte	rpolation				
Point Estima	ates												
Level %	95% LCL	95% UCL	TU	95% LCL	95% UCL								
LC50 >10	0 n/a	n/a	<1	n/a	n/a								
2d Survival	Rate Summary				Calcu	lated	Variat	e(A/B)				Isoto	nic Variate
Conc-%	Code	Count	Mean	Min	Max	Std	Dev	CV%	%Effe	ct	A/B	Mean	%Effect
0	D	4	1.000		1.0000	0.00		0.00%	0.0%		40/40	1	0.0%
6.25		4	1.000		1.0000	0.00		0.00%	0.0%		40/40	1	0.0%
12.5		4	1.000		1.0000	0.00		0.00%	0.0%		40/40	1	0.0%
25		4	1.000		1.0000	0.00		0.00%	0.0%		40/40	1	0.0%
50		4	1.000		1.0000	0.00		0.00%	0.0%		40/40	1	0.0%
91 100		4	1.000 1.000		1.0000	0.00		0.00%	0.0%		40/40	1	0.0%
		4	1.000	0 1.0000	1.0000	0.00	00	0.00%	0.0%		40/40	11	0.0%
2d Survival I		_											
Conc-%	Code	Rep 1	Rep 2		Rep 4								
0	D	1.0000	1.000		1.0000								
6.25		1.0000	1.000		1.0000								
12.5		1.0000	1.000		1.0000								
25		1,0000	1.000		1.0000								
50		1.0000	1.000		1.0000								
91		1.0000	1.000		1.0000								
100		1.0000	1.000	0 1.0000	1.0000								
	Rate Binomials			_									
Conc-%	Code D	Rep 1	Rep 2		Rep 4								
-	υ	10/10	10/10		10/10								
6.25		10/10	10/10		10/10								
12.5		10/10	10/10		10/10								
25		10/10	10/10		10/10								
50		10/10	10/10		10/10								
91		10/10	10/10		10/10								
100		10/10	40/40	40/40	40/40								

000-222-335-4

100

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CETIS™ v1.9.4.1

10/10

Analyst:\_ QA:\_\_

08-8806-0576

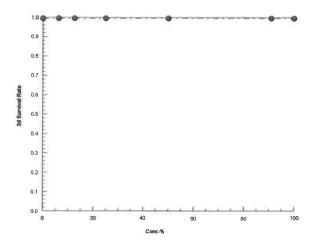
Report Date: Test Code/ID: 22 Oct-18 14:09 (p 2 of 4) 18-1475 / 17-9963-4566

Fathead Minnow 7-d Larval Survival and Growth Test **New England Bioassay** 

> **CETIS Version:** CETISv1.9.4

Analysis ID: Endpoint: 2d Survival Rate Analyzed: 22 Oct-18 14:08 Analysis: Linear Interpolation (ICPIN) Status Level: 1

### Graphics



000-222-335-4

CETIS™ v1.9.4.1

Analyst:\_ QA:\_

19 of 65

Report Date: Test Code/ID: 22 Oct-18 14:09 (p 3 of 4) 18-1475 / 17-9963-4566

Fathead I Analysis Analyzed Batch ID:	Minnow	7 d l ancal 6							est Code/II				
Analyzed		1-u Laivai 3	urvival and	Growth	n Test						٨	lew Englan	d Bioassay
		2283-2330		•	7d Survival Rat			C	ETIS Versi	ion:	CETISv	1.9.4	
Batch ID:	1: 22	Oct-18 14:08	Ana	lysis:	Linear Interpola	tion (ICPI	4)	S	Status Leve	l:	1		
	: 05-	4263-5806	Test	t Type:	Growth-Surviva	l (7d)		•	\nalyst:				
Start Date	e: 01	Oct-18 13:00	Prof	tocol:	EPA/821/R-02-	013 (2002)		C	Diluent:	Recei	ving Wat	er	
Ending D	Date: 08	Oct-18 12:29	Spe	cies:	Pimephales pro	melas		E	Brine:	Not A	pplicable		
Test Lenç	gth: 6d	23h	Tax	on:	Actinopterygii			S	Source:	In-Ho	use Cultu	ire	Age: <24
Sample II	<b>D</b> : 01-	4623-4759	Cod	e:	8B75D87			F	Project:				
•		Oct-18 09:00		-	Industrial Efflue	nt		S	Source:	Patrio	t Beverag	ges (MA000	4936)
•		Oct-18 09:55	_	(PC):				S	Station:				
Sample A	Age: 4h		Clie	nt:	Patriot Beverag	es							
Linear Inf	terpolati	on Options											
X Transfo		Y Transform			Resamples	Exp 95%			l . t'				
Log(X)		Linear	2040	0137	200	Yes	I WO-	-Point In	terpolation				
Test Acce		Criteria	TAC L	imits									
Attribute		Test Stat		Upper		Decision							
Control Re	esp	1	0.8	>>	Yes	Passes (	riteria						
Point Est	imates												
	%	95% LCL	95% UCL	TU	95% LCL	95% UCL							
LC50 >	>100	n/a	n/a	<1	n/a	n/a							
7d Surviv	/al Rate S	Summary				Calc	ulated Varia	te(A/B)				Isotor	nic Variate
Conc-%		Code	Count	Mean	Min	Max	Std Dev	CV%	%Effe	ct	A/B	Mean	%Effect
0		D	4	1.0000		1.0000	0.0000	0.00%			40/40	1	0.0%
6.25			4	1.0000		1.0000	0.0000	0.00%			40/40	1	0.0%
12.5			4	1.0000		1.0000	0.0000	0.00%			40/40	1	0.0%
25 50			4	0.9750		1.0000	0.0500	5.13%			39/40	0.9937	0.63%
91			4	1.0000 1.0000		1.0000 1.0000	0.0000 0.0000	0.00%			40/40 40/40	0.9937 0.9937	0.63% 0.63%
100			4	1.0000		1.0000	0.0000	0.00%			40/40	0.9937	0.63%
	al Data I	Data!!		1.0000	1.0000	1.0000	0.0000	0.0070	0.070			0.5557	0.0070
7d Surviv	ai Rate i		Do 4	D 0	D 0	D 4							
Conc-%		Code D	Rep 1 1.0000	Rep 2 1.0000	Rep 3	Rep 4 1.0000							
5.25		U	1.0000	1.0000		1.0000							
12.5			1.0000	1.0000		1.0000							
25			0.9000	1.0000		1.0000							
50			1.0000	1.0000		1.0000							
91			1.0000	1.0000		1.0000							
100			1.0000	1.0000		1.0000							
	al Rate F	Rinomials											
	- · · · · · · · · ·	Code	Don 1	Rep 2	Rep 3	Rep 4							
d Surviv			Rep :										
'd Surviv Conc-%		D	<b>Rep 1</b> 10/10	10/10	10/10	10/10							
7d Surviv Conc-%					10/10 10/10	10/10 10/10							
7d Surviv Conc-% 0 5.25			10/10	10/10									
7d Surviv Conc-% 0 5.25 12.5			10/10 10/10	10/10 10/10	10/10	10/10							
7d Surviv Conc-% 0 3.25 12.5			10/10 10/10 10/10	10/10 10/10 10/10	10/10 10/10	10/10 10/10							
7d Surviv Conc-% 0 6.25 12.5 25 50			10/10 10/10 10/10 10/10	10/10 10/10 10/10 10/10	10/10 10/10 10/10	10/10 10/10 10/10							

000-222-335-4 CETIS™ v1.9.4.1 Analyst:\_\_\_\_\_ QA:\_\_\_\_

Analysis ID: 13-2283-2330

Report Date: Test Code/ID: 22 Oct-18 14:09 (p 4 of 4) 18-1475 / 17-9963-4566

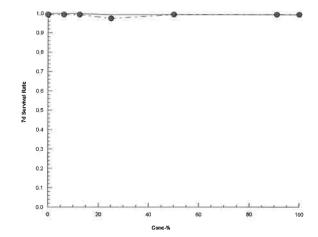
Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Endpoint: 7d Survival Rate CETIS Version: CETISv1.9.4

Analyzed: 22 Oct-18 14:08 Analysis: Linear Interpolation (ICPIN) Status Level: 1

### **Graphics**



000-222-335-4

CETIS™ v1.9.4.1

Analyst:\_\_\_\_ QA:\_\_\_\_

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Report Date: Test Code/ID: 22 Oct-18 14:08 (p 1 of 2) 18-1475 / 17-9963-4566

	_								1631	. Ooderib.		10-14/5/	17-3303-43
Fathead Minn	ow 7	-d Larval S	urvival	and Growth	Test						N	ew Engla	nd Bioassa
Analysis ID:	00-1	166-7388		Endpoint:	d Survival R	ate			CET	IS Versio	n: CETISv1	.9.4	
Analyzed:	22 C	ct-18 14:08		Analysis:	Nonparametri	c-Control	l vs T	reatments	Stat	us Level:	1		
Batch ID:	05-4	263-5806		Test Type: (	Growth-Surviv	/al (7d)			Ana	lvst:			
Start Date:		ct-18 13:00	l		EPA/821/R-0		02)		Dilu	•	eceiving Wate	er	
Ending Date:	08 C	ct-18 12:29	ı		Pimephales p		/		Brin		ot Applicable		
Test Length:				-	Actinopterygii				Sou		-House Cultu	re	Age: <2
Sample ID:	01-4	623-4759		Code: 8	BB75D87				Proj	ect:			
Sample Date:					ndustrial Effl	uent			Sou		atriot Beverag	es (MA000	)4936)
Receipt Date:				CAS (PC):					Stat				, , , , ,
Sample Age:				177	Patriot Bevera	ages							
Data Transfor	rm		Alt H	VD					NOEL	LOEL	TOEL	TU	PMSD
Angular (Corre	ected)		C > T	<del></del>					100	>100	n/a	1	4.43%
Steel Many-O	ne Ra	ank Sum Te	est										
	vs	Conc-%		Test St	at Critical	Ties	DF	P-Type	P-Value	Decisio	n(a:5%)		
Dilution Water		6.25		18	10	1	6	Asymp	0.8571		nificant Effec	t	
		12.5		18	10	1	6	Asymp	0.8571		nificant Effec		
		25		16	10	1	6	Asymp	0.6451	_	nificant Effec		
		50		18	10	1	6	Asymp	0.8571	_	nificant Effec		
		91		18	10	1	6	Asymp	0.8571	-	nificant Effec		
		100		18	10	1	6	Asymp	0.8571	_	nificant Effec		
Test Acceptat	bility	Criteria	T/	AC Limits									
Attribute		Test Stat			Overlap	Decis	ion						
Control Resp		1	8.0	>>	Yes	Passe	es Cr	riteria					
ANOVA Table	1												
Source		Sum Squa	ares	Mean S	quare	DF		F Stat	P-Value	Decisio	n(α:5%)		
Between		0.0056913		0.00094	185	6		1	0.4512	Non-Sig	nificant Effec	t	
Error		0.0199195	,	0.00094	185	21							
Total		0.0256108	}			27							
Distributional	Test	s											
Attribute		Test				Test S	Stat	Critical	P-Value	Decisio	n(α:1%)		
Variances		Levene Eq	uality c	f Variance Te	st	9		3.812	6.2E-05	Unequa	l Variances		
Variances		Mod Lever	ne Equa	ality of Variand	ce Test	1		3.812	0.4512	Equal V	ariances		
Distribution		Shapiro-W	ilk W N	lormality Test		0.426	1	0.8975	2.1E-09	Non-No	rmal Distribut	ion	
7d Survival R	ate S	ummary											
Conc-%		Code	Coun	t Mean	95% LCI	_ 95% L	JCL	Median	Min	Max	Std Err	CV%	%Effect
)		D	4	1.0000	1,0000	1.000	0	1.0000	1,0000	1,0000	0.0000	0.00%	0.00%
6.25			4	1.0000	1.0000	1.000		1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5			4	1.0000	1.0000	1.000		1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25			4	0.9750	0.8954	1.0000		1.0000	0.9000	1.0000	0.0250	5.13%	2.50%
50			4	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
91			4	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100			4	1.0000	1.0000	1.0000	0	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
Angular (Corr	ected	l) Transforr	ned Su	ımmary									
Conc-%		Code	Coun		95% LCI			Median	Min	Max	Std Err	CV%	%Effect
)		D	4	1.412	1.412	1.412		1.412	1.412	1.412	0	0.00%	0.00%
6.25			4	1.412	1.412	1.412		1.412	1.412	1.412	0	0.00%	0.00%
12,5			4	1.412	1.412	1.412		1.412	1.412	1,412	0	0.00%	0.00%
25			4	1.371	1.242	1.501		1.412	1.249	1.412	0.04074	5.94%	2.89%
50			4	1.412	1,412	1.412		1.412	1.412	1.412	0	0.00%	0.00%
91			4	1,412	1.412	1,412		1.412	1.412	1,412	0	0.00%	0.00%
100			4	1.412	1.412	1.412		1.412	1.412	1.412	0	0.00%	0.00%
00-222-335-4						CETIST	M v1	941			Analyst:	,	QA:
00-222-333-4						OL HO	VI	· J · 4 · 1			Allaiyst		жл. <u> </u>

Report Date: Test Code/ID: 22 Oct-18 14:08 (p 2 of 2) 18-1475 / 17-9963-4566

**New England Bioassay** 

Fathead Minnow	7-d Larval	Survival	and	Growth	Test
I deliberation in the second		- Cai Ti Tai	4114	01011	

Analysis ID: 00-1166-7388 Endpoint: 7d Survival Rate 22 Oct-18 14:08 Analysis:

Nonparametric-Control vs Treatments

**CETIS Version:** 

CETISv1.9.4

Status	Level:	1
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70	ı Su	ILAIN	ai Ra	te D	etail
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Analyzed:

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		0.9000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
91		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

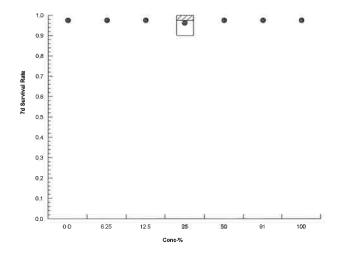
### Angular (Corrected) Transformed Detail

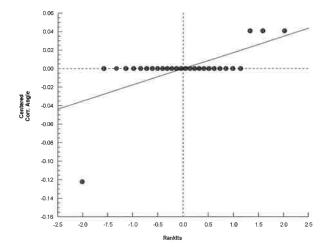
Code	Rep 1	Rep 2	Rep 3	Rep 4
D	1.412	1,412	1.412	1.412
	1.412	1.412	1.412	1.412
	1,412	1.412	1,412	1.412
	1.249	1.412	1.412	1.412
	1.412	1.412	1.412	1.412
	1.412	1.412	1.412	1.412
	1.412	1.412	1.412	1.412
		D 1.412 1.412 1.412 1.249 1.412	D 1.412 1.412 1.412 1.412 1.412 1.412 1.249 1.412 1.412 1.412 1.412 1.412	D 1.412 1.412 1.412 1.412 1.412 1.412 1.412 1.412 1.412 1.249 1.412 1.412 1.412 1.412 1.412 1.412 1.412 1.412

### 7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	10/10	10/10
6.25		10/10	10/10	10/10	10/10
12.5		10/10	10/10	10/10	10/10
25		9/10	10/10	10/10	10/10
50		10/10	10/10	10/10	10/10
91		10/10	10/10	10/10	10/10
100		10/10	10/10	10/10	10/10

### Graphics





Analyst:\_ QA:\_

Report Date: Test Code/ID: 29 Oct-18 10:09 (p 1 of 2) 18-1475 / 17-9963-4566

Fathead Minnow	7-d Larval S	urvival a	nd Growth	Test					Ne	ew Englar	nd Bioassa
	-5815-2640 Oct-18 10:08		•	Mean Dry Bion Parametric-Co	•	tments		IS Version us Level:	: CETISv1	.9.4	
Batch ID: 05	-4263-5806	Te	st Type: (	Growth-Surviva	al (7d)		Anal	yst:			
Start Date: 01	Oct-18 13:00			EPA/821/R-02			Dilue	-	ceiving Wate	r	
Ending Date: 08	Oct-18 12:29	Sp	ecies: F	Pimephales pr	omelas		Brin	e: No	t Applicable		
Test Length: 6d	23h	Та	ixon:	Actinopterygii			Sour	rce: In-	House Cultur	е	Age: <2
Sample ID: 01	-4623-4759	Co	ode: 8	BB75D87			Proje	ect:			
Sample Date: 01				ndustrial Efflue	ent		Soul		triot Beverage	es (MA000	(4936)
Receipt Date: 01	Oct-18 09:55	CA	AS (PC):				Stati		J	•	,
Sample Age: 4h		CI	ient:	Patriot Bevera	ges						
Data Transform		Alt Hyp					NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T					100	>100	n/a	1	9.17%
Dunnett Multiple	Comparison	Test									
Control vs	Conc-%		Test St	at Critical	MSD DF	P-Type	P-Value	Decision	n(a:5%)		
Dilution Water	6.25		1.734	2.448	0.045 6	CDF	0.1765		nificant Effect		
	12.5		0.9618	2.448	0.045 6	CDF	0.4713	_	nificant Effect		
	25		0.02704	1 2.448	0.045 6	CDF	0.8497	_	nificant Effect		
	50		-1.436	2,448	0.045 6	CDF	0.9966	-	nificant Effect		
	91		0.05408	3 2.448	0.045 6	CDF	0.8420	Non-Sigr	ificant Effect		
	100		1.368	2.448	0.045 6	CDF	0.2973	Non-Sigr	ificant Effect		
Test Acceptabilit	y Criteria	TAC	Limits								
Attribute	Test Stat	Lower	Upper	Overlap	Decision						
Control Resp	0.4927	0.25	>>								
Control Kesp	0.1021	0.23		Yes	Passes Cr	riteria					
		0.23		Yes	Passes Ci	riteria					
ANOVA Table					DF	riteria F Stat	P-Value	Decision	n(α:5%)		
ANOVA Table Source	Sum Squa 0.0092925	ares	Mean S	quare			<b>P-Value</b> 0.0756	Decision	<u> </u>		
ANOVA Table Source Between	Sum Squa	ares	Mean S	square 188	DF	F Stat			ı(α:5%) nificant Effect		
ANOVA Table Source Between Error	Sum Squa 0.0092925	ares	<b>Mean S</b>	square 188	DF 6	F Stat			<u> </u>		
ANOVA Table Source Between Error Total	Sum Squa 0.0092925 0.014304 0.0235965	ares	<b>Mean S</b>	square 188	DF 6 21	F Stat			<u> </u>		
ANOVA Table Source Between Error Total Distributional Tes	Sum Squa 0.0092925 0.014304 0.0235965	ares	<b>Mean S</b>	square 188	DF 6 21	F Stat 2.274			ificant Effect		
ANOVA Table Source Between Error Total Distributional Tes	Sum Squa 0.0092925 0.014304 0.0235965	ares	Mean S 0.00154 0.00068	<b>Square</b> 188 311	DF 6 21 27	F Stat 2.274	0.0756	Non-Sigr	nificant Effect		
ANOVA Table Source Between Error Total Distributional Tes Attribute Variances	Sum Squa 0.0092925 0.014304 0.0235965 sts Test	ares	Mean S 0.00154 0.00068	<b>Square</b> 188 1311	DF 6 21 27	F Stat 2.274 Critical	0.0756 P-Value	Non-Sign  Decision  Equal Va	nificant Effect		
ANOVA Table Source Between Error Total Distributional Tes Attribute Variances Distribution	Sum Squa 0.0092925 0.014304 0.0235965 sts Test Bartlett Eq Shapiro-W	uality of V	Mean S 0.00154 0.00068	<b>Square</b> 188 1311	DF 6 21 27 Test Stat 0.7119	F Stat 2.274  Critical 16.81	0.0756  P-Value 0.9942	Non-Sign  Decision  Equal Va	ificant Effect (α:1%) riances		
ANOVA Table Source Between Error Total Distributional Tes Attribute Variances Distribution	Sum Squa 0.0092925 0.014304 0.0235965 sts Test Bartlett Eq Shapiro-W	uality of V	Mean S 0.00154 0.00068	<b>Square</b> 188 1311	DF 6 21 27 Test Stat 0.7119 0.9569	F Stat 2.274  Critical 16.81	0.0756  P-Value 0.9942	Non-Sign  Decision  Equal Va	ificant Effect (α:1%) riances	CV%	%Effect
ANOVA Table Source Between Error Total Distributional Tea Attribute Variances Distribution Mean Dry Biomas Conc-%	Sum Squa 0.0092925 0.014304 0.0235965 sts Test Bartlett Eq Shapiro-W	uality of Vilk W Nor	Mean S 0.00154 0.00068 Variance Te mality Test	<b>Square</b> 488 311 st	DF 6 21 27 Test Stat 0.7119 0.9569	F Stat 2.274  Critical 16.81 0.8975	0.0756 P-Value 0.9942 0.2935	Non-Sigr Decisior Equal Va Normal D	n(α:1%) riances Distribution		%Effect 0.00%
ANOVA Table Source Between Error Total Distributional Tes Attribute Variances Distribution Mean Dry Biomas Conc-% 0 6.25	Sum Squa 0.0092925 0.014304 0.0235965 sts Test Bartlett Eq Shapiro-W ss-mg Summ Code	uality of V filk W Nor eary Count	Mean S 0.00154 0.00068 /ariance Te mality Test	6 <b>quare</b> 188 311 st 95% LCL	DF 6 21 27 Test Stat 0.7119 0.9569	F Stat 2.274  Critical 16.81 0.8975	0.0756  P-Value 0.9942 0.2935  Min	Decision Equal Va Normal C	n(α:1%) riances Distribution  Std Err	CV%	
ANOVA Table Source Between Error Total Distributional Tes Attribute Variances Distribution Mean Dry Biomas Conc-% 0 6.25	Sum Squa 0.0092925 0.014304 0.0235965 sts Test Bartlett Eq Shapiro-W ss-mg Summ Code	uality of Vilk W Norwary Count	Mean S 0.00154 0.00068 Variance Te mality Test Mean 0.4927 0.4607 0.475	95% LCL 0.4562 0.445	DF 6 21 27  Test Stat 0.7119 0.9569  95% UCL 0.5293 0.5036 0.505	F Stat 2.274  Critical 16.81 0.8975  Median 0.4825 0.454 0.4705	0.0756  P-Value 0.9942 0.2935  Min 0.479	Decision Equal Va Normal D Max 0.527 0.499 0.5	a(α:1%) riances Distribution  Std Err 0.01149 0.01346 0.009426	CV% 4.66%	0.00%
ANOVA Table Source Between Error Total Distributional Ten Attribute Variances Distribution Mean Dry Biomas Conc-% 0 6.25 12.5	Sum Squa 0.0092925 0.014304 0.0235965 sts Test Bartlett Eq Shapiro-W ss-mg Summ Code	uality of Vilk W Nor	Mean S 0.00154 0.00068 Variance Te mality Test Mean 0.4927 0.4607 0.475 0.4923	95% LCL 0.4562 0.4441	DF 6 21 27 Test Stat 0.7119 0.9569 95% UCL 0.5293 0.5036 0.505 0.5404	F Stat 2.274  Critical 16.81 0.8975  Median 0.4825 0.454 0.4705 0.495	0.0756  P-Value 0.9942 0.2935  Min 0.479 0.436 0.459 0.455	Decision Equal Va Normal D Max 0.527 0.499 0.5 0.524	a(α:1%) riances Distribution  Std Err  0.01149 0.01346 0.009426 0.01513	CV% 4.66% 5.84% 3.97% 6.15%	0.00% 6.49% 3.60% 0.10%
ANOVA Table Source Between Error Total Distributional Ten Attribute Variances Distribution Mean Dry Biomas Conc-% 0 6.25 12.5 25 50	Sum Squa 0.0092925 0.014304 0.0235965 sts Test Bartlett Eq Shapiro-W ss-mg Summ Code	uality of Vilk W Nordary  Count  4  4  4  4	Mean S 0.00154 0.00068 Variance Te mality Test Mean 0.4927 0.4607 0.475 0.4923 0.5193	95% LCL 0.4562 0.445 0.4441 0.4764	DF 6 21 27 Test Stat 0.7119 0.9569 95% UCL 0.5293 0.5036 0.505 0.5404 0.5621	F Stat 2.274 Critical 16.81 0.8975 Median 0.4825 0.454 0.4705 0.495 0.531	0.0756  P-Value 0.9942 0.2935  Min 0.479 0.436 0.459 0.455 0.479	Decision Equal Va Normal E  Max  0.527  0.499  0.5  0.524  0.536	a(α:1%) riances Distribution  Std Err  0.01149 0.01346 0.009426 0.01513 0.01347	CV% 4.66% 5.84% 3.97% 6.15% 5.19%	0.00% 6.49% 3.60% 0.10% -5.38%
ANOVA Table Source Between Error Total  Distributional Ten Attribute Variances Distribution  Mean Dry Biomas Conc-% 0 6.25 12.5 25 50 91	Sum Squa 0.0092925 0.014304 0.0235965 sts Test Bartlett Eq Shapiro-W ss-mg Summ Code	uality of Vilk W Nor	Mean S 0.00154 0.00066 Variance Te mality Test Mean 0.4927 0.4607 0.475 0.4923 0.5193 0.4918	95% LCL 0.4562 0.4479 0.4441 0.4764 0.4474	DF 6 21 27 Test Stat 0.7119 0.9569 95% UCL 0.5293 0.5036 0.505 0.5404 0.5621 0.5361	F Stat 2.274  Critical 16.81 0.8975  Median 0.4825 0.454 0.4705 0.495 0.531 0.494	0.0756  P-Value 0.9942 0.2935  Min 0.479 0.436 0.459 0.455 0.479 0.457	Decision Equal Va Normal E  Max  0.527  0.499  0.5  0.524  0.536  0.522	a(α:1%) riances Distribution  Std Err  0.01149 0.01346 0.009426 0.01513 0.01347 0.01394	CV% 4.66% 5.84% 3.97% 6.15% 5.19% 5.67%	0.00% 6.49% 3.60% 0.10% -5.38% 0.20%
ANOVA Table Source Between Error Total  Distributional Ten Attribute Variances Distribution  Mean Dry Biomas Conc-% 0 6.25 12.5 25 50 91	Sum Squa 0.0092925 0.014304 0.0235965 sts Test Bartlett Eq Shapiro-W ss-mg Summ Code	uality of Vilk W Nordary  Count  4  4  4  4	Mean S 0.00154 0.00068 Variance Te mality Test Mean 0.4927 0.4607 0.475 0.4923 0.5193	95% LCL 0.4562 0.445 0.4441 0.4764	DF 6 21 27 Test Stat 0.7119 0.9569 95% UCL 0.5293 0.5036 0.505 0.5404 0.5621	F Stat 2.274 Critical 16.81 0.8975 Median 0.4825 0.454 0.4705 0.495 0.531	0.0756  P-Value 0.9942 0.2935  Min 0.479 0.436 0.459 0.455 0.479	Decision Equal Va Normal E  Max  0.527  0.499  0.5  0.524  0.536	a(α:1%) riances Distribution  Std Err  0.01149 0.01346 0.009426 0.01513 0.01347	CV% 4.66% 5.84% 3.97% 6.15% 5.19%	0.00% 6.49% 3.60% 0.10% -5.38%
ANOVA Table Source Between Error Total Distributional Tes Attribute Variances Distribution Mean Dry Biomas Conc-% 0 6.25 12.5 25 50 91	Sum Squa 0.0092925 0.014304 0.0235965 sts  Test Bartlett Eq Shapiro-W ss-mg Summ Code D	uality of Vilk W Normary  Count  4  4  4  4	Mean S 0.00154 0.00066 Variance Te mality Test Mean 0.4927 0.4607 0.475 0.4923 0.5193 0.4918	95% LCL 0.4562 0.4479 0.4441 0.4764 0.4474	DF 6 21 27 Test Stat 0.7119 0.9569 95% UCL 0.5293 0.5036 0.505 0.5404 0.5621 0.5361	F Stat 2.274  Critical 16.81 0.8975  Median 0.4825 0.454 0.4705 0.495 0.531 0.494	0.0756  P-Value 0.9942 0.2935  Min 0.479 0.436 0.459 0.455 0.479 0.457	Decision Equal Va Normal E  Max  0.527  0.499  0.5  0.524  0.536  0.522	a(α:1%) riances Distribution  Std Err  0.01149 0.01346 0.009426 0.01513 0.01347 0.01394	CV% 4.66% 5.84% 3.97% 6.15% 5.19% 5.67%	0.00% 6.49% 3.60% 0.10% -5.38% 0.20%
ANOVA Table Source Between Error Total Distributional Tes Attribute Variances Distribution Mean Dry Biomas Conc-% 0 6.25 12.5 25 50 91 100 Mean Dry Biomas Conc-%	Sum Squa 0.0092925 0.014304 0.0235965 sts  Test Bartlett Eq Shapiro-W ss-mg Summ Code D	uality of Ville W Normary Count 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Mean S 0,00154 0.00068  /ariance Te mality Test  Mean 0,4927 0,4607 0,475 0,4923 0,5193 0,4918 0,4675  Rep 2	95% LCL 0.4562 0.4179 0.445 0.4441 0.4764 0.4474 0.4242	DF 6 21 27  Test Stat 0.7119 0.9569  95% UCL 0.5293 0.5036 0.505 0.5404 0.5621 0.5361 0.5108  Rep 4	F Stat 2.274  Critical 16.81 0.8975  Median 0.4825 0.454 0.4705 0.495 0.531 0.494	0.0756  P-Value 0.9942 0.2935  Min 0.479 0.436 0.459 0.455 0.479 0.457	Decision Equal Va Normal E  Max  0.527  0.499  0.5  0.524  0.536  0.522	a(α:1%) riances Distribution  Std Err  0.01149 0.01346 0.009426 0.01513 0.01347 0.01394	CV% 4.66% 5.84% 3.97% 6.15% 5.19% 5.67%	0.00% 6.49% 3.60% 0.10% -5.38% 0.20%
ANOVA Table Source Between Error Total  Distributional Tes Attribute Variances Distribution Mean Dry Biomas Conc-% 0 6.25 12.5 25 50 91 1000  Mean Dry Biomas Conc-% 0 Conc-%	Sum Squa 0.0092925 0.014304 0.0235965 sts  Test Bartlett Eq Shapiro-W ss-mg Summ Code D	uality of Vilk W Normary  Count 4 4 4 4 4 4 7 8 8 8 8 7 1 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Mean S 0.00154 0.00066  Variance Temality Test  Mean 0.4927 0.4607 0.475 0.4923 0.5193 0.4918 0.4675  Rep 2 0.485	95% LCL 0.4562 0.4179 0.445 0.4441 0.4764 0.4242 Rep 3 0.527	DF 6 21 27  Test Stat 0.7119 0.9569  95% UCL 0.5293 0.5036 0.505 0.5404 0.5621 0.5361 0.5108  Rep 4 0.479	F Stat 2.274  Critical 16.81 0.8975  Median 0.4825 0.454 0.4705 0.495 0.531 0.494	0.0756  P-Value 0.9942 0.2935  Min 0.479 0.436 0.459 0.455 0.479 0.457	Decision Equal Va Normal E  Max  0.527  0.499  0.5  0.524  0.536  0.522	a(α:1%) riances Distribution  Std Err  0.01149 0.01346 0.009426 0.01513 0.01347 0.01394	CV% 4.66% 5.84% 3.97% 6.15% 5.19% 5.67%	0.00% 6.49% 3.60% 0.10% -5.38% 0.20%
ANOVA Table Source Between Error Total  Distributional Test Attribute Variances Distribution  Mean Dry Biomas Conc-% 0 6.25 12.5 25 50 91 100  Mean Dry Biomas Conc-% 0 6.25	Sum Squa 0.0092925 0.014304 0.0235965 sts  Test Bartlett Eq Shapiro-W ss-mg Summ Code D	uality of Vilk W Normary  Count 4 4 4 4 4 4 0.48 0.452	Mean S 0.00154 0.00066  Variance Temality Test  Mean 0.4927 0.4607 0.475 0.4923 0.5193 0.4918 0.4675  Rep 2 0.485 0.499	95% LCL 0.4562 0.4441 0.4764 0.4474 0.4242 Rep 3 0.527 0.436	DF 6 21 27  Test Stat 0.7119 0.9569  95% UCL 0.5293 0.5036 0.505 0.5404 0.5621 0.5361 0.5108  Rep 4 0.479 0.456	F Stat 2.274  Critical 16.81 0.8975  Median 0.4825 0.454 0.4705 0.495 0.531 0.494	0.0756  P-Value 0.9942 0.2935  Min 0.479 0.436 0.459 0.455 0.479 0.457	Decision Equal Va Normal E  Max  0.527  0.499  0.5  0.524  0.536  0.522	a(α:1%) riances Distribution  Std Err  0.01149 0.01346 0.009426 0.01513 0.01347 0.01394	CV% 4.66% 5.84% 3.97% 6.15% 5.19% 5.67%	0.00% 6.49% 3.60% 0.10% -5.38% 0.20%
ANOVA Table Source Between Error Total  Distributional Ten Attribute Variances Distribution Mean Dry Biomas Conc-% 0 6.25 12.5 25 50 91 100  Mean Dry Biomas Conc-% 0 6.25 12.5 25 12.5 25 12.5	Sum Squa 0.0092925 0.014304 0.0235965 sts  Test Bartlett Eq Shapiro-W ss-mg Summ Code D	uality of V filk W Nor ary Count 4 4 4 4 4 4 4 4 9 0.48 0.452 0.459	Mean S 0.00154 0.00066  Variance Temality Test  Mean 0.4927 0.4607 0.475 0.4923 0.5193 0.4918 0.4675  Rep 2 0.485 0.499 0.462	95% LCL 0.4562 0.4479 0.445 0.4441 0.4764 0.4242 Rep 3 0.527 0.436 0.479	DF 6 21 27  Test Stat 0.7119 0.9569  95% UCL 0.5293 0.5036 0.505 0.5404 0.5621 0.5361 0.5108  Rep 4 0.479 0.456 0.5	F Stat 2.274  Critical 16.81 0.8975  Median 0.4825 0.454 0.4705 0.495 0.531 0.494	0.0756  P-Value 0.9942 0.2935  Min 0.479 0.436 0.459 0.455 0.479 0.457	Decision Equal Va Normal E  Max  0.527  0.499  0.5  0.524  0.536  0.522	a(α:1%) riances Distribution  Std Err  0.01149 0.01346 0.009426 0.01513 0.01347 0.01394	CV% 4.66% 5.84% 3.97% 6.15% 5.19% 5.67%	0.00% 6.49% 3.60% 0.10% -5.38% 0.20%
ANOVA Table Source Between Error Total  Distributional Tender Attribute Variances Distribution Mean Dry Biomas Conc-% 0 6.25 12.5 25 50 91 100  Mean Dry Biomas Conc-% 0 6.25 12.5 25 50 91 100	Sum Squa 0.0092925 0.014304 0.0235965 sts  Test Bartlett Eq Shapiro-W ss-mg Summ Code D	uality of Vilk W Nordary  Count 4 4 4 4 4 4 0.48 0.452 0.459 0.482	Mean S 0.00154 0.00066  Variance Te mality Test  Mean 0.4927 0.4607 0.475 0.4923 0.5193 0.4918 0.4675  Rep 2 0.485 0.499 0.462 0.524	95% LCL 0.4562 0.4479 0.445 0.4474 0.4242  Rep 3 0.527 0.436 0.479 0.455	DF 6 21 27  Test Stat 0.7119 0.9569  95% UCL 0.5293 0.5036 0.505 0.5404 0.5621 0.5361 0.5108  Rep 4 0.479 0.456 0.5 0.508	F Stat 2.274  Critical 16.81 0.8975  Median 0.4825 0.454 0.4705 0.495 0.531 0.494	0.0756  P-Value 0.9942 0.2935  Min 0.479 0.436 0.459 0.455 0.479 0.457	Decision Equal Va Normal E  Max  0.527  0.499  0.5  0.524  0.536  0.522	a(α:1%) riances Distribution  Std Err  0.01149 0.01346 0.009426 0.01513 0.01347 0.01394	CV% 4.66% 5.84% 3.97% 6.15% 5.19% 5.67%	0.00% 6.49% 3.60% 0.10% -5.38% 0.20%
ANOVA Table Source Between Error Total  Distributional Ter Attribute Variances Distribution Mean Dry Biomas Conc-% 0 6.25 12.5 25 50 91 100  Mean Dry Biomas Conc-% 0 6.25 12.5 25 50 91 100	Sum Squa 0.0092925 0.014304 0.0235965 sts  Test Bartlett Eq Shapiro-W ss-mg Summ Code D	uality of V filk W Nor ary Count 4 4 4 4 4 4 4 4 9 0.48 0.452 0.459	Mean S 0.00154 0.00066  Variance Temality Test  Mean 0.4927 0.4607 0.475 0.4923 0.5193 0.4918 0.4675  Rep 2 0.485 0.499 0.462	95% LCL 0.4562 0.4479 0.445 0.4441 0.4764 0.4242 Rep 3 0.527 0.436 0.479	DF 6 21 27  Test Stat 0.7119 0.9569  95% UCL 0.5293 0.5036 0.505 0.5404 0.5621 0.5361 0.5108  Rep 4 0.479 0.456 0.5	F Stat 2.274  Critical 16.81 0.8975  Median 0.4825 0.454 0.4705 0.495 0.531 0.494	0.0756  P-Value 0.9942 0.2935  Min 0.479 0.436 0.459 0.455 0.479 0.457	Decision Equal Va Normal E  Max  0.527  0.499  0.5  0.524  0.536  0.522	a(α:1%) riances Distribution  Std Err  0.01149 0.01346 0.009426 0.01513 0.01347 0.01394	CV% 4.66% 5.84% 3.97% 6.15% 5.19% 5.67%	0.00% 6.49% 3.60% 0.10% -5.38% 0.20%
ANOVA Table Source Between	Sum Squa 0.0092925 0.014304 0.0235965 sts  Test Bartlett Eq Shapiro-W ss-mg Summ Code D	uality of Vilk W Nordary  Count 4 4 4 4 4 4 0.48 0.452 0.459 0.482	Mean S 0.00154 0.00066  Variance Te mality Test  Mean 0.4927 0.4607 0.475 0.4923 0.5193 0.4918 0.4675  Rep 2 0.485 0.499 0.462 0.524	95% LCL 0.4562 0.4479 0.445 0.4474 0.4242  Rep 3 0.527 0.436 0.479 0.455	DF 6 21 27  Test Stat 0.7119 0.9569  95% UCL 0.5293 0.5036 0.505 0.5404 0.5621 0.5361 0.5108  Rep 4 0.479 0.456 0.5 0.508	F Stat 2.274  Critical 16.81 0.8975  Median 0.4825 0.454 0.4705 0.495 0.531 0.494	0.0756  P-Value 0.9942 0.2935  Min 0.479 0.436 0.459 0.455 0.479 0.457	Decision Equal Va Normal E  Max  0.527  0.499  0.5  0.524  0.536  0.522	a(α:1%) riances Distribution  Std Err  0.01149 0.01346 0.009426 0.01513 0.01347 0.01394	CV% 4.66% 5.84% 3.97% 6.15% 5.19% 5.67%	0.00% 6.49% 3.60% 0.10% -5.38% 0.20%

000-222-335-4 CETIS™ v1.9.4.1 Analyst:\_\_\_\_\_ QA:\_\_\_\_\_

Report Date: Test Code/ID: 29 Oct-18 10:09 (p 2 of 2) 18-1475 / 17-9963-4566

Fathead Minnow 7-d Larval Survival and Growth Test

**New England Bioassay** 

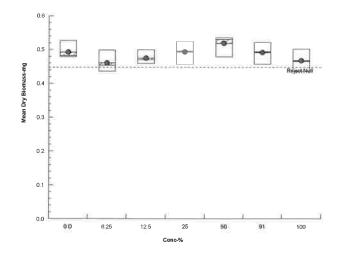
**Analysis ID:** 16-5815-2640 **Analyzed:** 29 Oct-18 10:08

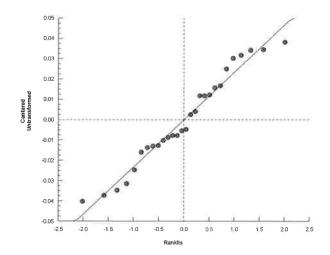
Endpoint: Mean Dry Biomass-mg
Analysis: Parametric-Control vs Treatments

CETIS Version: CETISv1.9.4

Status Level: 1

### Graphics





0

6.25

12.5

25

50

91

100

D

0.48

0.452

0.459

0.482

0.531

0.484

0.502

Report Date: Test Code/ID:

29 Oct-18 10:09 (p 1 of 2) 18-1475 / 17-9963-4566

Fathead Min	now 7-d Larval S	urvival and	Growt	h Test							١	lew Englan	d Bioa	ssa
Analysis ID:	07-1304-8737	End	point:	Mean Dry Biom	nass-mg			CE	TIS Version	on:	CETISv	1.9.4		
Analyzed:	29 Oct-18 10:08	8 Ana	lysis:	Linear Interpola	ation (ICPI	N)		Sta	tus Level		1			
Batch ID:	05-4263-5806	Tes	t Type:	Growth-Surviva	ıl (7d)			Ana	alyst:					
Start Date:	01 Oct-18 13:00		ocol:	EPA/821/R-02-		!)			•	Recei	ving Wat	er		
Ending Date	: 08 Oct-18 12:29	Spe	cies:	Pimephales pro	•	,		Bri			pplicable			
Test Length		Tax		Actinopterygii							use Cultu	ire	Age:	<2
Sample ID:	01-4623-4759	Cod	e:	8B75D87				Pro	ject:					
•	e: 01 Oct-18 09:00		erial:	Industrial Efflue	ent				•	atrio	t Bevera	ges (MA000	4936)	
•	e: 01 Oct-18 09:55		(PC):						tion:			, , , , , , , , , , , , , , , , , , ,	.000,	
Sample Age		Clie		Patriot Beverag	jes			010						
Linear Inter	oolation Options													
X Transform	·	n See	d	Resamples	Exp 95	% CI	Method							
Linear	Linear		3664	200	Yes	70 OL	Two-Poi		polation					_
Tost Accent	ability Criteria								<u> </u>					_
·	•	TAC L												
Attribute	Test Stat		Uppe		Decisio									_
Control Resp	0.4927	0.25	>>	Yes	Passes	Criteria								
Point Estim	ates													
Level %	95% LCL	95% UCL	TU	95% LCL	95% UC	L								
IC25 >10	0 n/a	n/a	<1	n/a	n/a									
IC50 >10	0 n/a	n/a	<1	n/a	n/a									
Mean Dry Bi	omass-mg Summ	nary			С	alculate	ed Variat	e				Isotoi	nic Vari	ate
Conc-%	Code	Count	Mean	Min	Max	Std	Dev C	V%	%Effec	t		Mean	%Ef	fec
0	D	4	0.492	7 0.479	0.527	0.02	299 4	.67%	0.0%			0.4927	0.0%	6
6.25		4	0.460	7 0.436	0.499	0.02	692 5	.84%	6.49%			0.4878	1.09	6
12.5		4	0.475	0.459	0.5	0.018	885 3	97%	3.6%			0.4878	1.0%	
25		4	0.492	3 0.455	0.524	0.03	027 6	.15%	0.1%			0.4878	1.09	6
50		4	0.519	3 0.479	0.536	0.02	694 5	.19%	-5.38%			0.4878	1.09	-
91		4	0.491	8 0.457	0.522	0.02		.67%	0.2%			0.4878	1.09	-
100		4	0.467	5 0.436	0.502	0.02		.82%	5.12%			0.4675	5.12	
———— Mean Dry Bi	omass-mg Detail	_												
Сопс-%	Code	Rep 1	Rep 2	Rep 3	Rep 4									

0.527

0.436

0.479

0.455

0.479

0.457

0.436

0.479

0.456

0.508

0.536

0.522

0.47

0.5

0.485

0.499

0.462

0.524

0.531

0.504

0.462

Report Date: Test Code/ID: 29 Oct-18 10:09 (p 2 of 2) 18-1475 / 17-9963-4566

**New England Bioassay** 

Test Code/ID: 10-14/5/

Analysis ID: 07-1304-8737

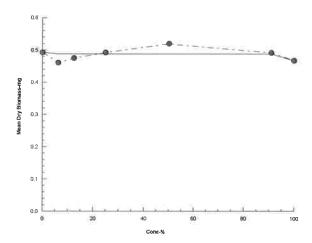
07-1304-8737 29 Oct-18 10:08

Fathead Minnow 7-d Larval Survival and Growth Test

**Endpoint:** Mean Dry Biomass-mg **Analysis:** Linear Interpolation (ICPIN)

CETIS Version: CETISv1.9.4
Status Level: 1

### Analyzed: Graphics



### NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

FACILITY NAME & ADDR			erages, 20 F 5.0044697.0		d, Littleton I		Pima	phales promelas
DILUTION WATER SOUR			nthetic Lab		START DAT			TIME: 1300
ANALYST	ММ	CD	ко	CD	ММ	ко	ко	
NEB Lab Synthetic Diluent	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.7	25.5	26.0	26.0	25.8	25.0	25.7	
D.O. mg/L Initial	8.2	8.2	8.1	8.1	8.8	8.4	8.3	
pH s.u. Initial	7.3	7.8	7.5	7.7	7.5	7.5	7.6	
Conductivity µS Initial	177	178	176	176	183	185	187	
Temp °C Final	25.6	25.2	26.0	25.6	25.2	25.2	25.5	
D.O. mg/L Final	7.0	6.3	6.2	6.1	7.2	7.1	7.1	
oH s.u. Final	7.5	7.2	7.3	7.4	7.2	7.1	7.4	
Conductivity µS Final	201	190	198	202	209	219	205	
Brook Control	1	2	3	4	5	6	7	Remarks
Temp °C Initial	26.0	25.6	25.1	26.0	24.8	25.0	24.9	
D.O. mg/L Initial	7.9	8.8	8.2	8.8	7.7	8.5	9.2	
pH s.u. Initial	7.1	7.0	6.8	7.2	6.6	6.9	6.9	
Conductivity µS Initial	325	325	287	287	287	287	289	
Temp °C Final	25.4	25.2	26.0	25.6	25.4	25.1	25.5	
D.O. mg/L Final	7.1	6.4	6.2	6.7	7.2	6.8	6.9	
oH s.u. Final	7.3	7.1	7.1	7.3	6.9	7.0	7.1	
Conductivity µS Final	347	336	313	313	311	319	305	
6.25%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.6	25.6	25.5	26.0	26.0	25.0	25.9	
D.O. mg/L Initial	8.3	8.3	8.3	8.1	8.8	8.4	8.3	
pH s.u. Initial	8.2	8.5	8.3	8.3	8.4	8.5	8.4	
Conductivity µS Initial	347	339	336	346	374	365	373	
Femp °C Final	25.5	25.3	26.0	25.7	25.3	25.3	25.6	
D.O. mg/L Final	6.9	6.1	6.9	6.7	7.3	7.3	7.1	
oH s.u. Final	8.1	7.8	7.5	8.1	8.1	7.6	8.0	
Conductivity µS Final	369	351	354	370	397	395	391	
12.5%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.4	25.7	25.8	26.0	26.0	25.0	25.9	
D.O. mg/L Initial	8.3	8.3	8.2	8.2	8.8	8.4	8.3	
oH s.u. Initial	8.4	8.7	8.5	8.5	8.5	8.6	8.6	
Conductivity µS Initial	473	520	489	507	510	519	526	
「emp ℃ Final	25.4	25.3	26.0	25.7	25.3	25.3	25.6	
D.O. mg/L Final	7.5	6.3	6.1	6.8	7.2	7.4	7.1	
oH s.u. Final	8.4	8.3	8.0	8.4	8.3	8.1	8.3	
Conductivity µS Final	495	530	511	531	536	548	543	

### NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

FACILITY NAME & ADDI	RESS:	Patriot Bev	erages, 20 H	Harvard Roa	d, Littleton I	MA 01460		
NEB PROJECT NUMBER			5.0044697.0		TEST ORGA			phales promelas
DILUTION WATER SOUP	RCE:	T	ynthetic Lab	Water	START DAT			TIME: 1300
25%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.5	25.6	25.7	26.0	26.0	25.0	26.0	
D.O. mg/L Initial	8.4	8.4	8.3	8.3	8.8	8.4	8.4	
pH s.u. Initial	8.6	8.7	8.6	8.6	8.6	8.7	8.6	
Conductivity µS Initial	810	828	808	807	880	854	861	
Temp °C Final	25.4	25.3	26.0	25.6	25.2	25.2	25.6	
D.O. mg/L Final	7.3	5.9	5.8	6.9	7.2	7.5	7.1	
pH s.u. Final	8.7	8.6	8.5	8.7	8.6	8.5	8.6	
Conductivity µS Final	829	841	833	830	900	890	880	
50%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.4	25.5	25.8	25.7	25.9	25.1	26.0	
D.O. mg/L Initial	8.5	8.7	8.4	8.6	9.0	8.5	8.5	
pH s.u. Initial	8.6	8.8	8.6	8.6	8.6	8.7	8.6	
Conductivity µS Initial	1,423	1,465	1,450	1,434	1,542	1,534	1,537	
Temp °C Final	25.3	25.2	26.0	25.7	25.2	25.2	25.6	
D.O. mg/L Final	7.3	6.4	6.0	6.8	7.3	7.5	7.4	
pH s.u. Final	8.8	8.8	8.7	8.8	8.8	8.7	8.8	
Conductivity µS Final	1,447	1,482	1,474	1,463	1,562	1,575	1,559	
91%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.3	25.4	25.4	25.1	25.5	25.1	26.0	
D.O. mg/L Initial	9.1	9.2	8.8	9.2	9.2	8.7	8.8	
pH s.u. Initial	8.7	8.7	8.6	8.6	8.6	8.7	8.6	
Conductivity µS Initial	2,452	2,428	2,424	2,422	2,531	2,598	2,572	
Гетр °С Final	25.6	25.3	26.0	25.7	25.3	25.1	25.6	
D.O. mg/L Final	7.4	6.6	6.0	6.9	7.3	7.6	7.1	
pH s.u. Final	8.8	8.8	8.8	8.8	8.8	8.7	8.8	
Conductivity µS Final	2,464	2,453	2,445	2,443	2,539	2,593	2,569	
100%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.0	25.2	25.1	24.7	25.2	25.1	26.0	
D.O. mg/L Initial	9.7	9.9	9.4	9.8	9.6	9.4	9.3	
pH s.u. Initial	8.7	8.7	8.6	8.6	8.6	8.7	8.6	
Conductivity µS Initial	2,651	2,653	2,655	2,645	2,814	2,821	2,826	
Temp °C Final	25.5	25.3	26.0	25.7	25.4	25.3	25.7	
D.O. mg/L Final	7.3	6.8	6.5	7.0	7.3	7.2	7.4	
pH s.u. Final	8.9	8.8	8.8	8.8	8.8	8.7	8.8	
Conductivity µS Final	2,644	2,669	2,667	2,655	2,807	2,816	2,807	

Table o	f Ra	ndo	m P	ermuta	tion	s of	16				P.p	rom	elas	Test	: ID	#	18	3-14	75
7 12	15	15	1	2	7	16	10	2	14	15	7	13	13		10	6	1	8	10
13 3	8	16	7	10	11	10	13	5	11	7	13	16	7		7	5	13	2	14
3 1	4	5	14	13	3	14	9	13	13	2	9	15	6		2	8	4	5	8
11 8	16	14	15	6	2	6	2	16	8	5	12	3	9		13	4	3	10	4
14 9 2 16	1	6	3	9 5	14	13	8	6	5	8 12	14	7	3		15	13	11	4	7
2 16 4 6	10 13	13 7	5 2	5 15	13 1	2 9	11 1	7 4	3 7	10	5 6	14 9	12 11		16 9	2 7	2 6	9 16	15 11
6 14	6	10	4	14	4	15	3	3	4	16	2	6	5		1	12	10	6	9
10 15	2	1	13	12	16	3	4	8	10	1	15	5	14		12	14	12	3	2
12 10	7	12	9	11	9	8	12	14	15	4	11	8	16		8	9	14	14	1
15 7	5	2	10	7	8	12	6	15	6	13	16	12	15		4	11	8	12	6
16 2	11	8	8	8	15	5	16	1	1	9	8	1	8		14	16	5	13	5
9 13	14	3	6	4	10	11	5	12	9	3	10	4	4		3	10	9	1	3
8 11	9	4	11	3	12	7	7	10	12	14	3	10	1		6	15	16	15	12
1 5	12	11	16	16	5	4	14	9	16	11	1	2	10		5	1	15	7	13
5 4	3	9	12	1	6	1	15	11	2	6	4	11	2		11	3	7	11	16
			conc				_												rep
11 8	16	5	5	13	1	13	2	16	14	12	9	8	7		5	13	3	13	3
2 2	8	8	14	16	4	3	8	11	10	14	15	1	2		11	4	5	15	9
6 13	2	13 16	6	5	9	15	11	10 12	12	6 3	16	15	16		9	10	12	16	15
14 12 8 6	4 3	<u>э</u>	16	11 10	14 6	10 4	5 16	2	3 2	9	12 8	14 16	15 4		13 6	6 5	4 15	1 7	16 8
9 15	3 12	10	3	2	12	6	10	15	4	13	7	7	9		ь 12	5 14	8	8	11
3 10	11	12	13	12	5	11	7	8	9	5	14	11	10		1	3	13	3	5
16 1	13	14	8	14	15	5	3	7	11	15	6	12	5		7	11	1	14	4
1 14	14	2	9	15	16	14	6	14	7	8	3	13	11		8	7	7	12	7
4 4	6	4	12	3	11	8	15	9	8	1	13	6	3		3	15	9	9	12
15 5	1	11	10	6	3	7	10	5	5	11	10	10	12		15	16	14	5	2
5 3	5	6	7	7	13	2	14	3	16	4	5	5	13		4	9	16	2	6
12 7	15	15	15	9	8	12	12	13	15	10	1	4	6		16	2	6	11	1
10 11	10	3	2	4	2	1	4	6	6	7	11	9	14		10	8	11	4	13
7 9	7	7	11	1	7	16	13	1	13	2	4	2	1		2	12	2	10	14
13 16	9	1	1	8	10	9	9	4	1	16	2	3	8		14	1	10	6	10
1 6	7	4	8	6	5	2	8	15	4	6	6	1	4		5	7	13	2	10
9 15	11	3	11	15	9	10	1	3	8	2	15	7	9		8	16	1	14	3
10 16	4	5	12	9	16	11	7	1	7	16	11	8	3		3	12	2	3	4
4 14	1	9	5	5	4	13	6	8	15	5	12	5	7		16	5	11	8	1
7 3 16 11	13 2	14 1	15 14	2 16	1 6	14 9	16 3	5 4	14 16	9 14	2	16 15	1 11		12 11	6 3	14 9	4 12	13 5
3 10	16	16	13	7	13	1	11	14	9	10	3 16	2	10		2	10	7	10	5 16
11 13	9	13	4	13	8	3	5	13	10	12	5	12	5		2 14	13	16	5	6
15 2	3	12	9	12	2	4	13	10	3	13	14	4	2		1	14	8	6	12
14 1	14	6	10	1	3	12	4	2	2	4	13	3	16		9	9	3	7	14
13 12	5	11	3	11	15	8	2	7	11	7	8	14	6		4	4	4	15	11
12 5	10	7	2	14	7	15	14	16	13	1	9	10	12		10	11	10	9	8
8 9	8	10	6	4	11	7	10	11	6	8	4	9	8		15	8	6	11	9
2 7	6	2	1	8	10	6	15	12	1	11	7	11	13		6	1	15	13	15
6 4	15	8	16	10	14	16	9	6	12	3	10	6	14		7	2	12	16	7
5 8	12	15	7	3	12	5	12	9	5	15	1	13	15		13	15	5	1	2
13 4	10	4	16	13	16	13	5	3	6	14	1	16	8		7	2	3	3	12
5 14	4	6	8	2	15	1	13	14	16	4	15	4	3		12	12	1	4	7
2 2	2	15	14	16	9	12	16	6	10	15	14	9	10		1	14	8	8	16
7 12	15	8	12	3	5	14	7	12	5	13	16	1	7		5	11	2	9	3
6 9	7	14	9	14	10	11	15	11	12	1	12	12	14		16	3	11	11	8
14 5	16	7	10	8	11	8	14	13	7	11	6	3	11		4	4	6	6	9
15 11	8	9	7	12	8	7	1	15	9	3	3	7	13		11	10	4	5	1
11 6	6	1	4	1	3	16	12	5	4	9	13	13	6		8	15	9	1	14
4 10	3	16	2	11	7	9	6	9	1	8	4	11	5		2	16	10	12	4
1 8 9 7	1 14	13 2	1 6	15 4	4 14	4	11 9	4	2 15	16	5 7	8	1		9	5	12	16	6
12 1	9	10	15	5	2	10 15	10	8 2	14	10 2	8	10 2	9 4		10 13	6 8	14 5	10 15	11 5
3 3	12	11	5	9	6	6	3	10	13	12	9	6	2		15 15	7	5 15	7	13
10 15	11	5	13	7	12	5	2	7	11	5	10	15	12		3	1	13	13	10
8 13	13	3	3	10	13	2	4	1	8	6	11	14	15		6	9	16	2	2
16 16	5	12	11	6	1	3	8	16	3	7	2	5	16		14	13	7	14	15

# **CHEMICAL ANALYSIS**

Please note the subcontract laboratory has its own QAQC and data review processes, and therefore New England Bioassay does not review the analytical results we receive.



Friday, October 05, 2018

Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Project ID: PATRIOT BEVERAGES Sample ID#s: CB62352 - CB62355

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis/Shiller

**Laboratory Director** 

NELAC - #NY11301

CT Lab Registration #PH-0618 MA Lab Registration #M-CT007 ME Lab Registration #CT-007

NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003 NY Lab Registration #11301 PA Lab Registration #68-03530

RI Lab Registration #63

UT Lab Registration #CT00007 VT Lab Registration #VT11301

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040 Telephone (860) 645-1102 Fax (860) 645-0823

Page 1 of 11



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

## **Analysis Report**

October 05, 2018

FOR:

Attn: Ms. Kim Wills

New England Bioassay

a Division of GZA GeoEnvironmental

77 Batson Drive

Manchester, CT 06040

Sample Information

**WASTE WATER** 

Location Code:

NEB

Rush Request:

Standard

P.O.#:

Matrix:

22345

Custody Information

<u>Time</u>

Collected by:

10/01/18

Date

7:00

Received by: Analyzed by: SW

10/01/18

16:42

see "By" below

Laboratory Data

SDG ID: GCB62352

Phoenix ID: CB62352

Project ID:

PATRIOT BEVERAGES

Client ID:

**EFFLUENT-1** 

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Aluminum	0.054	0.005	mg/L	1	10/04/18	TH	E200.7
Cadmium	< 0.0001	0.0001	mg/L	1	10/03/18	RS	SM3113B
Copper	0.0017	0.0010	mg/L	1	10/04/18	TH	E200.7
Hardness (CaCO3)	86.3	0.1	mg/L	1	10/04/18		E200.7
Nickel	0.011	0.001	mg/L	1	10/04/18	TH	E200.7
Lead	< 0.0003	0.0003	mg/L	1	10/03/18	RS	SM3113B
Zinc	0.025	0.002	mg/L	1	10/04/18	TH	E200.7
Alkalinity-CaCO3	1240	5.00	mg/L	1	10/02/18	RWR	SM2320B-11
Conductivity	2510	5.00	umhos/cm	1	10/02/18	RR/EG	SM2510B-11
Ammonia as Nitrogen	0.08	0.05	mg/L	1	10/04/18	KDB	E350.1
Tot. Diss. Solids	1600	10	mg/L	1	10/02/18	MM/EG	SM2540C-11
Tot. Org. Carbon	7.2	0.50	mg/L	1	10/03/18	RWR	SM5310B-11
Total Solids	1700	20	mg/L	2	10/04/18	EG	SM2540B-11
Total Metals Digestion	Completed				10/03/18	AG	

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

If there are any questions regarding this data, please call Phoenix Client Services. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

October 05, 2018

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Ver 1

Page 2 of 11



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Fax (860) 645-0823 Tel. (860) 645-1102

## **Analysis Report**

October 05, 2018

FOR:

Attn: Ms. Kim Wills

New England Bioassay

a Division of GZA GeoEnvironmental

77 Batson Drive Manchester, CT 06040

Sample Information

WASTE WATER

Time

Matrix:

10/01/18

6:45

Location Code:

**NEB** 

Collected by: Received by:

SW

10/01/18

Date

16:42

Rush Request:

Analyzed by:

see "By" below

SDG ID: GCB62352

P.O.#:

Standard 22345

aboratory Data

**Custody Information** 

Phoenix ID: CB62353

Project ID:

PATRIOT BEVERAGES

Client ID:

**RECEIVING WATER-1** 

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Aluminum	0.122	0.005	mg/L	9	10/04/18	TH	E200.7
Cadmium	< 0.0001	0.0001	mg/L	1	10/03/18	RS	SM3113B
Copper	0.0025	0.0010	mg/L	1	10/04/18	TH	E200.7
Hardness (CaCO3)	60.9	0.1	mg/L	1	10/04/18		E200.7
Nickel	0.004	0.001	mg/L	1	10/04/18	TH	E200.7
Lead	< 0.0003	0.0003	mg/L	1	10/03/18	RS	SM3113B
Zinc	0.008	0.002	mg/L	1	10/04/18	TH	E200.7
Alkalinity-CaCO3	36.4	5.00	mg/L	1	10/02/18	RWR	SM2320B-11
Conductivity	313	5.00	umhos/cm	1	10/02/18	RR/EG	SM2510B-11
Ammonia as Nitrogen	0.14	0.05	mg/L	1	10/04/18	KDB	E350.1
pH	7.07	1.00	pH Units	1	10/02/18 00:24	RR/EG	SM4500-H B-11
Tot. Org. Carbon	13.1	0.50	mg/L	1	10/02/18	RWR	SM5310B-11
Total Metals Digestion	Completed				10/03/18	AG	

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-

If there are any questions regarding this data, please call Phoenix Client Services.

This report must not be reproduced except in full as defined by the attached chain of custody.

Shiller, Laboratory Director

October 05, 2018

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Ver 1

Page 3 of 11



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report** 

October 05, 2018

FOR:

Attn: Ms. Kim Wills

New England Bioassay

a Division of GZA GeoEnvironmental

77 Batson Drive

Manchester, CT 06040

Sample Information

WASTE WATER

**Custody Information** Collected by:

Date

Time

Matrix:

10/01/18

7:00

Location Code:

**NEB** 

SW

10/01/18

16:42

Rush Request:

Received by: Analyzed by:

see "By" below

P.O.#:

Standard 22345

.aboratory Data

SDG ID: GCB62352

Phoenix ID: CB62354

Project ID: Client ID:

PATRIOT BEVERAGES

**EFFLUENT GRAB-1** 

RI /

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Chlorine Residual	0.03	0.02	mg/L	1	10/01/18 18:45	0	SM4500CLG-97
pH	8.71	1.00	pH Units	1	10/02/18 00:48	RR/EG	SM4500-H B-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-

The regulatory hold time for Chlorine is immediately. This Chlorine was performed in the laboratory and may be considered outside of hold-time.

If there are any questions regarding this data, please call Phoenix Client Services.

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Shiller, Laboratory Director

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Ver 1



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**Analysis Report** 

October 05, 2018

FOR: Attn: Ms. Kim Wills

SW

see "By" below

New England Bioassay

a Division of GZA GeoEnvironmental

77 Batson Drive Manchester, CT 06040

Sample Information

WATER

Location Code: Rush Request:

Standard 22345

P.O.#:

Matrix:

**NEB** 

aboratory Data

**Custody Information** 

Collected by:

Received by:

Analyzed by:

Date

Time

10/01/18

9:20

10/01/18

16:42

SDG ID: GCB62352

Phoenix ID: CB62355

Project ID:

PATRIOT BEVERAGES

Client ID: SRCF LAB WATER C38-5022

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Aluminum	< 0.010	0.010	mg/L	1	10/04/18	TH	SW6010C/E200.7
Cadmium	< 0.0001	0.0001	mg/L	1	10/03/18	RS	SM3113B/SW7010-10
Copper	< 0.0020	0.0020	mg/L	1	10/04/18	TH	SW6010C/E200.7
Hardness (CaCO3)	48.2	0.1	mg/L	1	10/04/18		E200.7
Nickel	< 0.001	0.001	mg/L	1	10/04/18	TH	SW6010C/E200.7
Lead	< 0.0003	0.0003	mg/L	1	10/03/18	RS	SM3113B/SW7010
Zinc	< 0.004	0.004	mg/L	1	10/04/18	TH	SW6010C/E200.7
Alkalinity-CaCO3	40.4	5.00	mg/L	1	10/02/18	RWR	SM2320B-11
Conductivity	176	5.00	umhos/cm	1	10/02/18	RR/EG	SM2510B-11
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	10/04/18	KDB	E350.1
pН	7.67	1.00	pH Units	1	10/02/18 00:53	RR/EG	SM4500-H B-11
Tot. Org. Carbon	< 0.50	0.50	mg/L	1	10/02/18	RWR	SM5310B-11
Total Metals Digestion	Completed				10/02/18	AG	

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-

If there are any questions regarding this data, please call Phoenix Client Services.

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Phyllis Shiller, Laboratory Director

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Ver 1

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Environmental Laboratories, Inc. 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

# QA/QC Report

October 05, 2018

# QA/QC Data

SDG I.D.: GCB62352

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 449963 (mg/L), C	C Samı	ole No: (	CB61462	(CB623	55)								
ICP Metals - Aqueous					,								
Aluminum	BRL	0.010	<0.010	<0.010	NC	98.8			94.9			75 - 125	20
Copper	BRL	0.005	<0.005	<0.005	NC	105			107			75 - 125	20
Nickel	BRL	0.001	0.015	0.015	0	103			102			75 - 125	20
Zinc	BRL	0.004	<0.004	<0.004	NC	102			103			75 - 125	20
QA/QC Batch 450091 (mg/L), C	C Samp	ole No: (	CB62208	(CB623	52, CB	52353)							
ICP Metals - Aqueous													
Aluminum	BRL	0.0050	0.039	0.0419	7.20	99.6			102			75 - 125	20
Copper	BRL	0.0025	< 0.003	<0.0025	NC	98.0			98.6			75 - 125	20
Nickel	BRL	0.0005	< 0.001	<0.0010	NC	96.7			94.7			75 - 125	20
Zinc	BRL	0.0020	0.002	0.0023	NC	92.7			92.1			75 - 125	20
QA/QC Batch 449923 (mg/L), G	C Samp	ole No: 0	CB62353	(CB6235	52, CB6	52353,	CB6235	5)					
Cadmium - Water	BRL .	0.0001	<0.0001	<0.0001	NC	109		•	103			75 - 125	20
Lead (Furnace) - Water	BRL	0.001	<0.0003	< 0.001	NC	107			104			75 - 125	30



Environmental Laboratories, Inc. 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

# QA/QC Report

October 05, 2018

# QA/QC Data

SDG I.D.: GCB62352

Parameter	Blank	Bik RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 449873 (mg/L), Q	C Samp	ole No:	CB60940	(CB623	52)								
Tot. Diss. Solids	BRL	10	82	75	8.90	101						85 - 115	20
Comment:	:- OF 11	EO/ MAC			75 1050/								
Additional: LCS acceptance range													
QA/QC Batch 449935 (mg/L), Q Total Organic Carbon Comment:	BRL	1.0	1.1	1.1	NC	105			96.0			85 - 115	20
Additional: LCS acceptance range	is 85-11	5% MS	acceptance	e range 7	75-125%								
QA/QC Batch 449862 (mg/L), Q	C Samp	ole No:	CB61661	(CB623	52, CB	62353,	CB6235	4, CB6	2355)				
Alkalinity-CaCO3 Comment:	BRL	5.00	282	280	0.70	97.6						85 - 115	20
Additional: LCS acceptance range	is 85-11	5% MS	acceptance	e range 7	75-125%								
QA/QC Batch 450130 (mg/L), Q	C Samp	ole No:	CB61661	(CB623	52, CB	52353,	CB6235	4, CB6	2355)				
Alkalinity-CaCO3 Comment:	BRL	5.00	282	280	0.70	97.6						85 - 115	20
Additional: LCS acceptance range	is 85-11	5% MS	acceptance	e range 7	75-125%								
QA/QC Batch 449870 (umhos/c							2353, CE	362354	, CB62	355)			
Conductivity Comment:	BRL	5.00	609	607	0.30	95.9						85 - 115	20
Additional: LCS acceptance range	is 85-11	5% MS	acceptance	erange 7	75-125%								
QA/QC Batch 449857 (pH), QC	Sample	No: C	B61661 (0		•	354, CI	B62355)						
pH Comment:			8.01	8.03	0.20	98.5						85 - 115	20
Additional: LCS acceptance range	is 85-11	5% MS	acceptance	e range 7	75-125%								
QA/QC Batch 449792 (mg/L), Q	C Samp	ole No:	CB62141	(CB623	54)								
Chlorine Residual	BRL	0.02	<0.02	<0.02	NC	114							
QA/QC Batch 450030 (mg/L), Q	C Samp	ole No:	CB62188	(CB623	52, CB6	52353,	CB6235	i5)					
Ammonia as Nitrogen	BRL	0.05	<0.10	<0.10	NC	110			110			90 - 110	20
QA/QC Batch 450289 (mg/L), Q				•	,								
Total Solids Comment:	BRL	10	1700	1700	0	96.0						85 - 115	20
Additional: LCS acceptance range	is 85-11	5% MS	acceptance	e range 7	75-125%								

QA/QC Data

SDG I.D.: GCB62352

% Dup RPD Blk Sample Dup LCS LCSD LCS MSD MS Rec MS Blank RL RPD Parameter Result Result % % RPD % % RPD Limits Limits

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

**RPD - Relative Percent Difference** 

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis/Shiller, Laboratory Director

October 05, 2018

Page 8 of 11

Friday, October 05, 2018 Criteria: None

# Sample Criteria Exceedances Report GCB62352 - NEB

State: MA RL Analysis
SampNo Acode Phoenix Analyte Criteria Result RL Criteria Units

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Page 9 of 11

<sup>\*\*\*</sup> No Data to Display \*\*\*



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823



# **Analysis Comments**

October 05, 2018

adv noted in the Analysis Penort or

SDG I.D.: GCB62352

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Page 10 of 11

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PHO Environment	PHOENIX WE			189	East Mid	dle Turnpi vice@pho	587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040 Email: service@phoenixlabs.com Fax (860) 645-0823	x 370, Ma om Fay	Manchester, CT 06( Fax (860) 645-0823	CT 06040 5-0823	_		Data Delivery (check one):    Fax #:  X  Email: kimberly wils@gz	rery (che	Data Delivery (check one):  Fax #:  Email: kimberty.wils@gza.com	wa.
Customer: New	Customer: New England Bioassav				֝֞֞֞֓֞֓֞֓֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֟֟֓֓֓֓֟֟֓֓֓֟֓֓֟	Project:	A TATA	1 F	Roy Proces	9	7	1	Project D.O.		□ Excel □ Pdf	C Gis Key
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Manci	Manchester, CT 06042				٥	voice to:	Invoice to: Kim Wills	93				Fax#	9.	860-646-7169	-7169	
	Client Sample - Information - Identification	Identificat	tion		Ÿ	alysis	\		/ /		No.			Bellyand	1/2	3
Signature			_ Date			Request	1	Ŷ,	1	3	OS OS	/"	35			1400
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Cd - 0.0005 mg/L; Pb ·	Cd - 0.0005 mg/L; Pb - 0.0005 mg/L; Cu - 0.003 mg/L; Zn - 0.005	L; Zn - 0.0		mg/L; Ni - 0.005 mg/L; AI - 0.02 mg/L	L; AI - 0.0)	2 mg/L										

Page 11 of 11



Wednesday, October 10, 2018

Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Project ID: PATRIOT BEVERAGES (MA)

Sample ID#s: CB64682 - CB64684

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis/Shiller

**Laboratory Director** 

NELAC - #NY11301 CT Lab Registration #PH-0618 MA Lab Registration #M-CT007 ME Lab Registration #CT-007 NH Lab Registration #213693-A,B NJ Lab Registration #CT-003 NY Lab Registration #11301 PA Lab Registration #68-03530 RI Lab Registration #63 UT Lab Registration #CT00007 VT Lab Registration #VT11301



587 East Middle Tumpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report** 

October 10, 2018

FOR:

Attn: Ms. Kim Wills

**New England Bioassay** 

a Division of GZA GeoEnvironmental

77 Batson Drive

Manchester, CT 06040

Sample Information

**WASTE WATER** 

Date

Time

Matrix:

Collected by:

10/03/18

7:00

**Location Code:** Rush Request:

**NEB** 

Received by:

CP

10/03/18 16:41

Analyzed by:

see "By" below

P.O.#:

Standard 22345

aboratory Data

**Custody Information** 

SDG ID: GCB64682

Phoenix ID: CB64682

Project ID:

PATRIOT BEVERAGES (MA)

Client ID:

**EFFLUENT-2 C38-3747** 

RL/

**Parameter** 

Result **PQL** < 0.10

Dilution

Date/Time

Reference By

Ammonia as Nitrogen

0.10

Units mg/L

2 10/09/18

KDB E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### Comments:

If there are any questions regarding this data, please call Phoenix Client Services. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

October 10, 2018



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report** 

October 10, 2018

FOR: At

Attn: Ms. Kim Wills

New England Bioassay

a Division of GZA GeoEnvironmental

77 Batson Drive

Manchester, CT 06040

Sample Information

WASTE WATER

<u>Time</u>

Matrix:

VVASIL VV

Collected by:

10/03/18

7:30

Location Code:

NEB

Received by:

Custody Information

CP

10/03/18

Date

16:41

Rush Request:

Standard

Analyzed by:

see "By" below

SDG ID: GCB64682

P.O.#:

22345

Laboratory Data

Phoenix ID: CB64683

Project ID: Client ID:

PATRIOT BEVERAGES (MA)

**RECEIVING WATER-2 C38-3748** 

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

Ammonia as Nitrogen < 0.10 0.10 mg/L 2 10/09/18 KDB E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

# Comments:

If there are any questions regarding this data, please call Phoenix Client Services.

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Phyllis Shiller, Laboratory Director

October 10, 2018



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report** 

October 10, 2018

FOR:

Attn: Ms. Kim Wills

**New England Bioassay** 

a Division of GZA GeoEnvironmental

77 Batson Drive

Manchester, CT 06040

Sample Information

SURFACE WATER

Date

Time

Matrix:

P.O.#:

Collected by:

CP

10/03/18

7:00

Location Code:

NEB

Received by:

10/03/18

16:41

Rush Request:

Standard

Analyzed by:

see "By" below

SDG ID: GCB64682

22345

.aboratory Data

**Custody Information** 

Phoenix ID: CB64684

Project ID:

**PATRIOT BEVERAGES (MA)** 

Client ID:

**EFFLUENT GRAB-2** 

RI/

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Chlorine Residual	0.04	0.02	mg/L	1	10/03/18 19:24	0	SM4500CLG-97
pН	8.73	1.00	pH Units	1	10/04/18 06:42	RWR/KD	BSM4500-H B-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-

The regulatory hold time for Chlorine is immediately. This Chlorine was performed in the laboratory and may be considered outside of hold-time.

If there are any questions regarding this data, please call Phoenix Client Services.

This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

October 10, 2018



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

# QA/QC Report

October 10, 2018

# QA/QC Data

SDG I.D.: GCB64682

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 450238 (mg/L), C	C Samp	ole No:	CB63555	(CB646	84)								
Chlorine Residual	BRL	0.02	<0.02	<0.02	NC	112							
QA/QC Batch 450342 (pH), QC	Sample	No: Cl	364648 (0	CB64684	·)								
pH			7.87	7.93	0.80	97.9						85 - 115	20
Comment:													
Additional: LCS acceptance range	is 85-11	5% MS	acceptance	e range 7	'5-125%								
QA/QC Batch 450815 (mg/L), C	C Samp	ole No:	CB64685	(CB646	82, CB	64683)							
Ammonia as Nitrogen	BRL	0.05	<0.10	<0.10	NC	107			107			90 - 110	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

**RPD - Relative Percent Difference** 

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis/Shiller, Laboratory Director

October 10, 2018

# Sample Criteria Exceedances Report

GCB64682 - NEB

Criteria

Phoenix Analyte

SampNo Acode
\*\*\* No Data to Display \*\*\*

Wednesday, October 10, 2018

Criteria: None State: MA

Analysis Units

RL Criteria

Criteria

귙

Result

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823



SDG I.D.: GCB64682

# **Analysis Comments**

October 10, 2018

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

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74 444					CHA	IN OF	CUST	DDY R	CHAIN OF CUSTODY RECORD			<u>گ</u>	I Walth J.	2	Pg Pg	ō	
	) FINIX 📽			587 E	East Mic imail: se	Idle Tumpi rvice@pho	Peast Middle Turnpike, P.O. Box 3 Email: service@phoenixlabs.com	x 370, Mar m Fax	587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040 Email: service@phoenixlabs.com Fax (860) 645-0823	36040 23		<u>HUM</u>	Fax #:	kimberty	wile@gza	u co	4
Environm	Environmental Laboratories,	Inc.			ပ	lient Se	Client Services (860) 645-8726	6	5-8726				Format:	Excel	- B	100	☐ Gis Key
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Address: 77	77 Batson Drive				ΩŽ	eport to:		<u>s</u>	0	I	\	Phone #:	-	860-643-9560	3-9560		1
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Sampler's Signature			Date	ĺ	 & &	Analysis Request		GO 8					<b>38</b>			128	14
Matrix Code: DW=drinking water GW=groundwater	WW∹wastewater SL≕sludge	S=soil/solid O=other A=air	her			Train I de	THE TO S			//						201 1 100 1	807 R
Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	TES	10/1/2					19/18	10 10 10 10 10 10 10 10 10 10 10 10 10 1		18 2 P	(84) (84)	TO BY	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
64682	Effluent-2 638 - 374 (	1	1 Sam	00L0	×									-			
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Comments, Special	Comments, Special Requirements or Regulations:			-		-			Other		5 Ø æ ]□□	GB Modility SW Protection Res. Vol.	E		. ຊ ຊ ]□□	- 01 10	
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Thursday, October 11, 2018

Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Project ID: PATRIOT BEVERAGES
Sample ID#s: CB66989 - CB66991

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis/Shiller

**Laboratory Director** 

NELAC - #NY11301 CT Lab Registration #PH-0618 MA Lab Registration #M-CT007 ME Lab Registration #CT-007 NH Lab Registration #213693-A,B NJ Lab Registration #CT-003 NY Lab Registration #11301 PA Lab Registration #68-03530 RI Lab Registration #63 UT Lab Registration #CT00007 VT Lab Registration #VT11301



587 East Middle Tumpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report** 

October 11, 2018

FOR:

Attn: Ms. Kim Wills

**New England Bioassay** 

a Division of GZA GeoEnvironmental

77 Batson Drive

Manchester, CT 06040

Sample Information

**WASTE WATER** 

<u>Time</u>

Matrix:

P.O.#:

Collected by:

**Custody Information** 

10/05/18

6:00

Location Code:

**NEB** 

Received by:

SW

10/05/18

**Date** 

17:07

Rush Request:

Standard 22345

see "By" below

aboratory Data

Analyzed by:

SDG ID: GCB66989

Phoenix ID: CB66989

Project ID:

**PATRIOT BEVERAGES** 

Client ID:

**EFFLUENT-3** 

RL/

Parameter

**PQL** 

Units

Dilution Date/Time By

Reference

Result

Ammonia as Nitrogen

< 0.05 0.05 mg/L

10/10/18

KDB E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

# Comments:

If there are any questions regarding this data, please call Phoenix Client Services.

This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

October 11, 2018



587 East Middle Tumpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report** 

October 11, 2018

FOR:

Attn: Ms. Kim Wills

New England Bioassay

a Division of GZA GeoEnvironmental

77 Batson Drive

Manchester, CT 06040

Sample Information

Custody Information

<u>Date</u>

Time

Matrix:

**WASTE WATER** 

Collected by:

10/05/18

6:30

**Location Code:** 

**NEB** 

Received by:

SW

10/05/18

17:07

Rush Request:

Standard

Analyzed by:

see "By" below

SDG ID: GCB66989

P.O.#:

22345

aboratory Data.

Phoenix ID: CB66990

Project ID:

**PATRIOT BEVERAGES** 

**RECEIVING WATER-3** Client ID:

RL/

Parameter Result **PQL** Units **Dilution** Date/Time By Reference 0.05 10/10/18 KDB E350.1 Ammonia as Nitrogen 0.12 mg/L

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### Comments:

If there are any questions regarding this data, please call Phoenix Client Services. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

October 11, 2018



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report** 

October 11, 2018

FOR:

Attn: Ms. Kim Wills

New England Bioassay

a Division of GZA GeoEnvironmental

77 Batson Drive

Manchester, CT 06040

Sample Information

**Date** 

**Time** 

Matrix:

**WASTE WATER** 

**Custody Information** Collected by:

10/05/18

6:00

**Location Code:** 

**NEB** 

Received by:

10/05/18

17:07

Rush Request:

Standard

Analyzed by:

see "By" below

SW

P.O.#:

22345

.aboratorv Data

SDG ID: GCB66989

Phoenix ID: CB66991

Project ID:

**PATRIOT BEVERAGES** 

Client ID:

**EFFLUENT GRAB-3** 

DI/

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Chlorine Residual	0.02	0.02	mg/L	1	10/05/18 20:41	0	SM4500CLG-97
pH	8.67	1.00	pH Units	1	10/06/18 02:18	RR/EG	SM4500-H B-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-

The regulatory hold time for Chlorine is immediately. This Chlorine was performed in the laboratory and may be considered outside of hold-time.

If there are any questions regarding this data, please call Phoenix Client Services.

This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

October 11, 2018



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

# QA/QC Report

October 11, 2018

# QA/QC Data

SDG I.D.: GCB66989

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 450689 (mg/L), Q	C Samp	le No:	CB66012	(CB669	91)								
Chlorine Residual	BRL	0.02	<0.01	<0.02	NC	107							
QA/QC Batch 450739 (pH), QC	Sample	No: Cl	B66988 (C	CB66991	)								
pН			7.64	7.64	0	98.2						85 - 115	20
Comment:													
Additional: LCS acceptance range	is 85-11	5% MS	acceptance	e range 7	<b>'</b> 5-125%								
QA/QC Batch 451101 (mg/L), Q	C Samp	le No:	CB68030	(CB669	89, CB	66990)							
Ammonia as Nitrogen	BRL	0.05	<0.05	<0.05	NC	97.6			102			90 - 110	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

**RPD - Relative Percent Difference** 

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis Shiller, Laboratory Director

October 11, 2018

# Sample Criteria Exceedances Report

GCB66989 - NEB

Criteria

Result

Criteria

RL Criteria

Analysis Units

ح

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Phoenix Analyte

SampNo Acode

State: MA

Thursday, October 11, 2018 Criteria: None

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Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



# **Analysis Comments**

October 11, 2018 SDG I.D.: GCB66989

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

01 Jan	Temp C. Pg of Data Delivery (check one):	Fax #:  Famil: kimben/wils@cza.com	☐ Excel ☐ Pdf ☐ Gis Key	22345	80.64	860-646-7169	111111111111111111111111111111111111111	The Assert		Se 8 18 18 18 18 18 18 18 18 18 18 18 18 1		1						13		 Gw:3		MCP Certification	
	Data Del	4	(	(MM) Proje	\	Fax#				\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$								Regultements for CT	Res. Criteria	GA Mobility GB Mobility	SW Protection Res. Vol.		
	TODY RECORD	587 East Middle Tumpike, P.O. Box 370, Manchester, CT 06040 Email: service@phoenixlabs.com Fax (860) 645-0823	(860) 645-8726	atriot Beneraego		Vills	1/100	No or a	Training to the second									Tumeround:		3 Days*	Other	* Surcharge Applies	
	CHAIN OF CUSTODY RECORD	' East Middle Tumpike, P.O. Box 3 Email: service@phoenixlabs.com	Client Services <sub>,</sub> (860) 645-8726	Project: Tex	Report to: Kim Wills	Invoice to: Kim Wills		Analysis Request	Trail To a	Sala	×	×	×					Date: Time:	10-5-16 1240	-			
		587					fication	Date	=ather	Date Sampled	-	8//9/01	10/5/18 060					Accepted by:		b		neter above	a.com on reports
		HINK ST	Environmental Laboratories, Inc.	Customer: New England Bioassay	77 Batson Drive	Manchester, CT 06042	Client Sample - Information - Identification		WW=wastewater S=soil/solid O=other SL=sludge A=air	Customer Sample Sample Identification Matrix		Receiving Water-3 O	Effluent Grab - 3					Ä	A + 10.0		Comments, Special Requirements or Regulations:	Please see detection limits (MLs) listed next to each parameter above	Please CC: Melanie.Cruff@gza.com and Robin.Faulk@gza.com on reports
	DIT		Environme	Customer: Ne	Address: 77	Man		Sampler's Signature	Matrix Code: DW=drinking water GW=groundwater	Phoenix Sample #	T	<b>७</b> ८५७७	1069 91					/ Relinguished		34 (5)	Comments, Special	Please see detection	Please CC: Melanie.

# SAMPLE RECEIPT CHEMISTRY & CHAIN OF CUSTODY DOCUMENTS

#### **NEW ENGLAND BIOASSAY - INITIAL CHEMISTRY DATA**

PERMITTEE:	Patriot Beverages	
NEB JOB #	05.0044697.00	

DATE RECEIVED	10/:	1/18	10/3	3/18	10/	5/18
SAMPLE TYPE:	EFF #1	BROOK #1	EFF #2	BROOK #2	EFF #3	BROOK #3
coc#	C38-3718	C38-3719	C38-3747	C38-3748	C38-3780	C38-3781
pH (SU)	8.6	7.6	8.5	7.5	8.5	7.4
Temperature (°C)	4.3	9.6	3.0	3.5	2.9	2.2
Dissolved Oxygen (mg/L)	10.2	8.4	9.9	8.4	10.1	7.9
Conductivity (µmhos)	2,685	330	2,641	304	2,822	288
Salinity (ppt)	1	<1	1	<1	2	< 1
TRC - DPD (mg/L)	0.033	0.013	0.034	0.002	0.028	0.026
TRC - Amperometric (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A
Hardness (mg/L as CaCO <sub>3</sub> )	86	58	84	54	92	52
Alkalinity (mg/l as CaCO₃)	1,215	35	1,210	45	1,305	30
Tech Initials	PD	PD	ТВР	ТВР	CW	CW

NOTE: NA = NOT APPL	ICABLE		
	$\overline{}$	411/	11/10

Data Reviewed By:

Sample: Sample Set #1  Sampler: Jan DRAPEAU  Title: CHIP CARARA WOUTP  Facility: Patriot Beverages	Sampler: Jun Dhy pey U  Title: CH (PF Upen Ton Wourf  Facility: Patriot Beverages
Sampling Method: X Composite  Sample ID: OUTFOLK OF  Start Date: 9/30/8 Time: 0860  End Date: 1/18 Time: 07000	Sampling Method: X Grab  Sample ID: Reedy Meadow Brook  Date Collected: /o///p  Time Collected: 0645
Sampling Method: X Grab (for pH and TRC only X )  Date Collected: $\sqrt{\sqrt{1/8}}$ Time Collected: $\sqrt{\sqrt{2}}$	Received ON ICE
Sample Type:  Prechlorinated Dechlorinated Unchlorinated Chlorinated	
Effluent Sampling Location and Procedures:	
Receiving Water Sampling Location and Procedures:  Requested Analysis: X Chronic and modified acute	
Sample Sl	nipment
Method of Shipment:  Relinquished By:  Date:  Date:  Optional In	10/1/18 Time: 08/7 10/1/18 Time: 08/7 10/1/18 0955 formation
Purchase Order # to reference on invoice:	01/18
FOR NEB U	
* Please return all ice packs NEB has provided to insure ac	ccurate temperature upon receipt to the NEB laboratory.
	emperature of Receiving Water Upon Receipt at Lab: 9.6 °C

NEW ENGLAND BIOASSAY - CHAIN-OF-CUSTODY

IF THIS COOLER IS MISPLACED OR THE LABEL IS LOST, PLEASE SHIP TO: KIM WILLS, NEW ENGLAND BIOASSAY MANCHESTER, CT 06042

NEW ENGLAND BIOASSAY - CHAIN-OF-CUSTODY					
Sampler: Jample Sef # 3  Sampler: Jample Sef # 3  Title: CNIES GOOD POR WUTP  Facility: Patriot Beverages	Sampler: Title: Patriot Beverages				
Sampling Method: X Composite  Sample ID: Time: 7700  End Date: 193/18 Time: 7700	Sampling Method: X Grab  Sample ID: Reedy Meadow Brook  Date Collected: 19313  Time Collected: 0730				
Sampling Method: X Grab (for pH and TRC only X )  Date Collected: / 5//> Time Collected: Prechlorinated Dechlorinated Unchlorinated Chlorinated	Received ON ICE				
Effluent Sampling Location and Procedures:  Receiving Water Sampling Location and Procedures:					
Requested Analysis: X Chronic and modified acute					
Sample S	hipment				
Method of Shipment: NEB Courier  Relinquished By: Date: Date	10/3/18 Time: \$:25 10/3/19 Time: 8:25 10/3/18 9:56				
FOR NEB U	ISE ONLY				
* Please return all ice packs NEB has provided to insure a					
·	emperature of Receiving Water Upon Receipt at Lab. 35 °C  Receiving Water COC#				

IF THIS COOLER IS MISPLACED OR THE LABEL IS LOST, PLEASE SHIP TO: KIM WILLS, NEW ENGLAND BIOASSAY MANCHESTER, CT 06042

Sampler: Jangle Set #3  Sampler: Jangle Set #3  Title: CHIP GREATER WWT  Facility: Patriot Beverages  Sampling Method: X Composite  Sample ID: OUTALL OUT  Start Date: 10/9//8 Time: 0700  End Date: 10/5//8 Time: 0600  Sampling Method: X Grab (for pH and TRC only X)  Date Collected: 10/5//8  Time Collected: 10/5//8	Sampler:
Sample Type:  Prechlorinated Dechlorinated Unchlorinated Chlorinated	
Effluent Sampling Location and Procedures:	
Receiving Water Sampling Location and Procedures:	х.
Requested Analysis: X Chronic and modified acute	
Sample SI	nipment
Method of Shipment:NBB Courier	
Relinquished By: Date: Date:	10/5/18 Time: 8:05
Received By: Date:	10151/8 Time: 8:05
Rel by:	10/5/18 10:37
Part Optional In	124
Purkas Order #45 To Smith	Received
Purchase Order # to reference on invoice:	ON ICE
EOD NED II	CE ON W
* Please return all ice packs NEB has provided to insure ac	
	-F
Temperature of Effluent Upon Receipt at Lab: 2 9 °C Te	emperature of Receiving Water Upon Receipt at Lab: <u>2.2 °C</u>
Effluent COC#	eceiving Water COC#

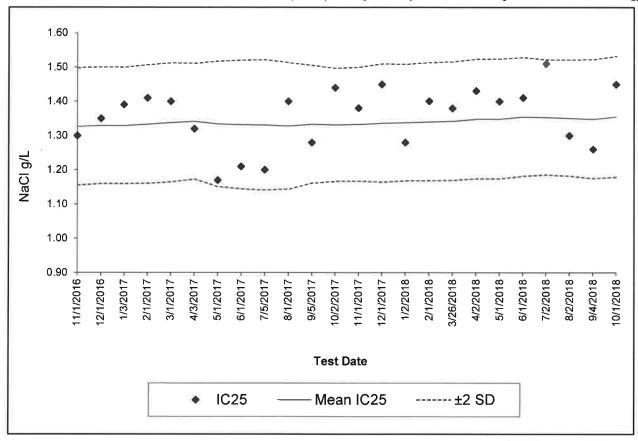
NEW ENGLAND BIOASSAY - CHAIN-OF-CUSTODY

IF THIS COOLER IS MISPLACED OR THE LABEL IS LOST, PLEASE SHIP TO: KIM WILLS, NEW ENGLAND BIOASSAY MANCHESTER, CT 06042

# REFERENCE TOXICANT CHARTS

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New England Bioassay
Reference Toxicant Data: Sodium chloride (NaCl) *Pimephales promelas* 7-day Chronic Growth IC<sub>25</sub>



Test ID	Date	IC <sub>25</sub>	Mean IC <sub>25</sub>	STD	-2STD	+2STD	Avg. CV	Growth PMSD (%)	Avg. PMSD (%)
16-1593	11/1/2016	1.30	1.33	0.09	1.16	1.50	0.06	6.87	9.68
16-1735	12/1/2016	1.35	1.33	0.09	1.16	1.50	0.06	7.89	9.51
17-15	1/3/2017	1.39	1.33	0.08	1.16	1.50	0.06	6.16	9.24
17-152	2/1/2017	1.41	1.33	0.09	1.16	1.51	0.06	9.65	9.27
17-268	3/1/2017	1.40	1.34	0.09	1.16	1.51	0.06	20.53	10.07
17-481	4/3/2017	1.32	1.34	0.08	1,.17	1.51	0.06	7.47	9.90
17-617	5/1/2017	1.17	1.33	0.09	1.15	1.52	0.07	10.74	9.95
17-765	6/1/2017	1.21	1.33	0.09	1.14	1.52	0.07	7.41	9.80
17-973	7/5/2017	1.20	1.33	0.09	1:14	1.52	0.07	10.39	9.83
17-1147	8/1/2017	1.40	1.33	0.09	1.14	1.51	0.07	11.35	9.91
17-1318	9/5/2017	1.28	1,33	0.09	1.16	1.50	0.06	13.74	10.11
17-1522	10/2/2017	1.44	1.33	0.08	1.17	1.50	0.06	10.36	10.12
17-1696	11/1/2017	1.38	1.33	0.08	1.17	1.50	0.06	9.27	10.08
17-1809	12/1/2017	1.45	1.34	0.09	1.16	1.51	0.06	26.17	10.78
18-11	1/2/2018	1.28	1.34	0.09	1.17	1.51	0.06	6.16	10.59
18-184	2/1/2018	1.40	1.34	0.09	1.17	1.51	0.06	10.52	10.51
18-416	3/26/2018	1.38	1.34	0.09	1.17	1.51	0.06	9.14	10.49
18-472	4/2/2018	1.43	1.35	0.09	1.17	1.52	0.06	6.25	10.57
18-608	5/1/2018	1.40	1.35	0.09	1.17	1.52	0.06	11.80	10.88
18-745	6/1/2018	1.41	1.35	0.09	1.18	1.53	0.06	13.87	11.08
18-919	7/2/2018	1.51	1.35	0.08	1.19	1.52	0.06	12.86	10.83
18-1104	8/2/2018	1.30	1.35	0.08	1.18	1.52	0.06	9.21	10.63
18-1316	9/4/2018	1.26	1.35	0.09	1.18	1.52	0.06	11.89	10.84
18-1512	10/1/2018	1.45	1.36	0.09	1.18	1.53	0,06	8.61	10.76

National 75th Percentile and 90th Percentile CV Averages for Fathead Growth IC25 (EPA 833-R-00-003): 0.38 - 0.45 PMSD Upper and Lower Bounds for Fathead Growth (EPA-821-R-02-013): 12% - 30%